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STAFF CHARACTERISTICS AND PRINCIPAL LEADERSHIP

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF EDUCATION

DIVISION OF EDUCATIONAL ADMINISTRATION

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by

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CALGARY, ALBERTA

OCTOBER, 1963

ABSTRACT

This investigation tests the hypothesis that the leader behaviour of school principals is related to certain major social characteristics of their teaching staffs.

The leader behaviour of the principal and the social characteristics of teaching staffs were measured by the responses of 120 female teachers, 5 on each of 24 elementary school staffs in the City of Calgary, Alberta, to two instruments, the Leader Behaviour Description Questionnaire and the Group Dimensions Description Questionnaire.

The investigation was in eight parts: The first was an assessment of the social characteristics of the staffs in comparison with characteristics of social groups established through previous research; the second was an analysis of differences between characteristics of the sample and of teaching groups in the U. S. A.; the third was an assessment of the relationships between principals' initiating structure and staff characteristics; the fourth sought to measure the relationships between principals' consideration and staff characteristics; the fifth concerned the relationships between both dimensions of leadership

jointly and staff characteristics; the sixth attempted to determine which of the characteristics and dimensions of leadership were objectively measured; the seventh calculated the rank-order correlations between the leadership dimensions and staff characteristics; and the eighth assessed the rank-order correlations between pairs of dimensions of staff characteristics.

This study verified that Calgary elementary school staffs differ from other social groups, and especially from teaching groups in the U. S. A. on several group dimensions. It revealed that both dimensions of leadership, singly or jointly, are related to several staff characteristics. It confirmed that some of the staff characteristics are measured with an adequate level of agreement among teachers, while others are characteristics that each teacher may perceive in terms of his own orientations and attitudes. It revealed a considerable degree of inter-correlation among the dimensions of leadership and of the groups.

This investigation confirmed the hypothesis that principal leader behaviour is related to certain social characteristics of school staffs, some of which can be measured objectively.

ACKNOWLEDEMENTS

The writer wishes to thank his advisor, Dr. J. H. Andrews, and the two other members of his Committee, Dr. G. Mowat and Dr. J. Macdonald for their guidance, interest and encouragement during the research, treatment of data and preparation of the manuscript for this study.

Appreciation is also gratefully expressed to Dr. A. W. Reeves and his staff in the Department of Educational Administration, University of Alberta, for giving me the opportunity to take part in their graduate program and for the leadership they have shown in this field of study.

The writer is also indebted to the principals and staffs of the elementary schools in Calgary, Alberta, who unstintingly gave their valuable time to assist me in this project, and to the University of Alberta, whose Graduate Fellowship enabled me to pursue the studies leading to this work.

To my wife, Pamela Joan, for her sympathy, encouragement, and assistance in the first drafts of this manuscript, I am deeply indebted and acknowledge this debt with gratitude.

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CHAPTER I

PROBLEMS AND DEFINITIONS OF TERMS

I INTRODUCTION

This study, in general, tests the hypothesis that relationships exist between certain aspects of the group behaviour of elementary school staffs and the leadership behaviour of the principals of these staffs. Such group behaviour is that indicated by responses of staff members to the Group Dimensions Description Questionnaire (see Appendix B). The behaviour of the principal that is the concern of this study is his leadership behaviour as indicated by the scores assigned to him by his staff on the two dimensions of the Leader Behaviour Description Questionnaire (see Appendix A).

There is considerable evidence that this hypothesis is a reasonable one to maintain. This evidence is reviewed in the related literature reported in Chapter II of this study. Also included in Chapter II are descriptions of the two instruments used in the study : the Leader Behaviour Description Questionnnaire and the Group Dimensions Questionnaire, henceforth to be referred to as the LBDQ and the GDDQ respectively.

The behaviour of the principal's staff is not investigated directly. Rather, on the assumption that a teacher's behaviour is influenced by the characteristics of the teaching staff of which he is a member, this study is concerned with the description of certain group characteristics as indicated by the scores for the staff on the thirteen dimensions of the GDDQ, and the relationship between these scores and the principal's LBDQ ratings.

The descriptions of the leadership style of each principal and the group dimensions descriptions of his staff are supplied by five teachers. In other words, the relationship between the leadership style of the principal and the behaviour of his staff is investigated in terms of the staff-members' perceptions of the leader behaviour of their principals and characteristics of the staffs of which they are members.

II. NEED FOR THE STUDY

Effective principal leadership is a crucial factor in the provision of a continually-improving educational program. Research has indicated that such leadership can be measured in terms of two dimensions, Initiating Structure in Interaction and Consideration, as shown in Chapter II, henceforth to be referred to as the I-dimension and the C-dimension respectively, scores on which will be termed I-scores and C-scores.

Research has further indicated that it is possible to describe social groups in terms of thirteen dimensions of the GDDQ (see Chapter II). Scores on these dimensions will be termed P_n-scores.

Very little research has been undertaken into the relationships between leadership and staff characteristics. This study is designed to provide some evidence of these relationships.

III. PROBLEMS INVESTIGATED

I. How do Calgary elementary teachers perceive the school staffs of which they are members ?

II. Do these perceptions differ from those of U. S. A. teachers ?

III. Do teachers associated with principals high in initiating structure perceive their staffs as being different from staffs associated with principals low in initiating structure ?

IV. Does a similar condition exist in relation to consideration ?

V. Does a similar condition exist in relation to both leader dimensions jointly ?

VI. Do the LBDQ and GDDQ instruments provide objective criteria of measurement ?

VII. Are the group dimensions independent of the leadership dimensions as determined by rank correlation coefficients ?

VIII. Are the dimensions of the GDDQ mutually independent or do correlations exist within them ?

IV. DEFINITIONS

Base Population: This population refers to the sample of 950 residents of the U. S. A. used as a "standard" population for the GDDQ.

GDDQ: The GDDQ is the Group Dimensions Description Questionnaire employed in this study.

Group: The term "group" refers to members of a unit of organization which is supervised by the person being described by the LBDQ. In this study, the unit is the elementary school staff, which is described by the GDDQ.

Group Characteristics : The group characteristics are the following thirteen dimensions of the GDDQ. :

1. Autonomy is the degree to which a group functions independently of other groups and occupies an independent position in society.

2. Control is the degree to which a group regulates the behaviour of individuals while they are functioning as group members.

3. Flexibility is the degree to which a group's activities are marked by informal procedures rather than by adherence to established procedures.

4. Hedonic Tone is the degree to which group membership is accompanied by a general feeling of pleasantness or agreeableness.

5. Homogeneity is the degree to which members of a group are similar with respect to socially relevant characteristics.

6. Intimacy is the degree to which members of a group are familiar with the most personal details of one another's lives.

7. Participation is the degree to which members of a group apply time and effort to group activities.

8. Permeability is the degree to which a group permits ready accesss to membership.

9. Polarization is the degree to which a group is oriented and works towards a single goal which is clear and specific to all members.

10. Potency is the degree to which a group has primary significance for its members.

11. Stability is the degree to which a group persists over a period of time with essentially the same characteristics.

12. Stratification is the degree to which a group orders its members into status hierarchies.

13. Viscidity is the degree to which members of the group function as a unit. (5, pp. 2-4).

LBDQ: The LBDQ is the Leader Behaviour Description Questionnaire employed in this study.

LBDQ Dimensions : The dimensions of leadership measured by the LBDQ are as follows :

Consideration refers to the principal's behaviour indicative of friendship, mutual trust, respect and warmth in the relationship between him and members of his teaching staff.

C-dimension is the characteristic underlying the set of possible scores on the Consideration dimension of the LBDQ.

C-score is the rating of the principal on the Consideration dimension of the LBDQ.

Initiating Structure refers to the principal's behaviour in delineating the relationship between himself and the members of the staff, and in endeavouring to establish well-defined patterns of organization, channels of communication, and ways of getting the job done.

I-dimension is the characteristic underlying the set of possible scores on the Initiating Structure dimension of the LBDQ.

I-score is a score obtained by a principal rated on the I-dimension of the LBDQ.

P_n-distribution : the P_n-distribution is the frequency distribution of scores on the n-th dimension of the GDDQ (n = 1, 2, 3 . . . 13).

P_n-score : the P_n-score is the score of any given group on the n-th dimension of the GDDQ.

S_n-distribution : the S_n-distribution is the re-distribution of P_n-scores into Stanines according to Table I of Hemphill (5, p. 8).

S_n-score : the S_n-score is the Stanine score for any group corresponding to its P_n-score.

Teaching Groups of the Base Population : This population refers to the sample of 320 public school teachers of the U. S. A. used in establishing standard populations for the GDDQ.

CHAPTER II

REVIEW OF THE LITERATURE

The purposes of this chapter are to survey chronologically certain themes and assumptions of leadership; to review research which led to the development of the Leader Behaviour Description Questionnaire; and to review research which led to the development of the Group Dimensions Description Questionnaire.

I. LEADERSHIP : THEMES AND ASSUMPTIONS

> Of all the hazy and confounding areas in social psychology, leadership theory undoubtedly contends for the top nomination. And, ironically, probably more has been written and less is known about leadership than about any other topic in the behavioural sciences. Always, it seems, the concept of leadership eludes us or turns up in another form to taunt us again with its slipperiness and complexity. (1, p. 259).

Warren G. Bennis presents, in the article from which this quotation is drawn, an account of the evolution of administrative theory within the frame of reference of which the emerging concept of leadership finds its origins, its definitions and its structure. He shows that three major phases in the development of administrative theory have been also the main stages in the evolution of the leadership concept.

First came the Scientific Management and Bureaucracy stage, which Bennis terms "Organizations without People". (1, p. 263). Identified with this phase are the names of Frederick W. Taylor (18), Max Weber (19), and the theories of Gulick, Urwick and Haldane.

Bennis comments :

> loosely speaking . . . classical organizational theory portrayed men as either too base or too unpredictable to consider; viewed power as springing up from forces out of the control of the organization's members; struggled with the man-machine problem and decided on the latter; believed that organizations were, or could be, rationally planned and executed. (1, p. 266).

Two themes seem to have permeated this approach : that organizations were above men, and could be constructed with rationality and predictability; and that subordination of organizational members to leaders is achieved through factors exogenous to the organization.

The second phase, as Bennis discusses it, is the human relations phase of "People without Organizations". (1, p. 266). This stage is associated with the names of Elton Mayo and his theories of plant sociology, (16, p. 83), the psychological theories of Sigmund Freud, Kurt Lewin's pivotal concerns and action research, Carl Rogers and his client-centered therapy, and with the work of Moreno, Benne, Sheats, and Knickerbocker.

Bennis suggests that nine non-independent factors characterize the human relations approach. These are summarized as follows :

(1) Leadership and authority are emergent factors. Functional leadership replaces designated status and formal structure.

(2) Organizations are holistic organisms.

(3) The focus is the group.

(4) Unanticipated consequences dictate procedures and hamper prediction.

(5) Power stems from group norms.

(6) Similarities of interests between superior and subordinates are key factors.

(7) Implied consent replaces external incentives.

(8) The role of the leader is that of co-ordination and of facilitating transactional relationships.

(9) Consensual validation based upon group norms is the major criterion of the efficacy of decisions. (1, p. 272).

The third stage in theories of leadership Bennis refers to as the Revisionist Stage (1, pp. 272-276), occurring in three phases, the first of which is identified with the writings of Robert McMurray. (24, pp. 82-90). Bennis writes of this phase :

> . . . the human relations approach is not only incompatible with human nature, but impractical too !
>
> Benevolent Autocracy, on the other hand, gets its results because it rigidly structures, routinizes, and controls the relations of the supervisors to their subordinates.
>
> Benevolent Autocracy has one invaluable attribute; where it has been tried, it works. It is a method for making the best out of the worst. (1, p. 274).

This phase was followed by one which Bennis associated with the name of G. Argyris, (11, p. 280) describing it as :

> . . . the fusion process between the individual's need-system and the formal organizational . . . role system (in which) healthy adults will tend to obtain optimum personality expression while at work if they are provided with jobs which permit them to realize more of their growth tendencies.

In the third Revisionist phase, Bennis sees Douglas McGregor as the key figure. (1, pp. 280-281). McGregor contends that "the most central principle of conventional organizational theory is that of authority". (10). Bennis's summary is as follows :

> Essentially (this) system can be reduced to two elements: a collaborative relationship between superior and subordinate that takes full account of their inter-dependency and reality task considerations that focus on the work requirements. (1, pp. 284-285).

II. DEFINITIONS OF LEADERSHIP

> One of the first sources of confusion in an attempt to understand leadership lies in the very definition of the term. It has many current meanings, any one of which is as acceptable as the next. (6, p. 3).

The work by Hemphill from which this quotation is taken commences with an evaluation of previous definitions of leadership. Hemphill writes that early attempts stressed the characteristic or "trait" approach. (6, pp. 3-6).

Leadership was then contrasted with other characteristic behaviours which were different from leadership behaviour. For example, Terman maintained that "the opposite of the leader is the outcast" (28, p. 445). Pigors distinguished between the "leader" and the "dominator", and thus confused the issue with a value judgment of desirable characteristics. (17). Jennings contrasted "leadership" with "isolation". (14). Others posed the polar extremities of "leadership" and "followership", and similar dichotomies. All attempted to identify and stress a specific quality in an individual's behaviour which could be identified as leadership.

Following these attempts that involved the trait concept or approach, fresh starts were made, aimed at identifying or defining leadership in terms of quantitatively differing characteristics of individuals. Brown considered leadership in terms of the size and importance of the group being led. (20, pp. 324-326). Flemming maintained a criterion based upon the importance of the office held. (22, pp. 596-615). Parten found leadership to be a trait or quality of a leader present in varying quantities among individual leaders (25, pp. 430-440).

Investigations then swung around to attempts to identify types of leaders. Cowley distinguished between "real" leaders and "head" men. (21, pp. 144-157). Others devised classificatory schemes based upon supposed types of a similar nature to those of Cowley.

Later Cowley re-defined a leader as one who "succeeds in inducing others to follow him". (21, p. 145). Parten saw leadership as a function of the personnel of the group and of group activities as well as of the behaviour of the individual considered as leader. (25, pp. 430-440). Pigors held that leadership is not vested in the qualities or characteristics of any single, given individual, but is something that becomes the role of a particular individual in a particular social setting. (17, p. 16). Other writers stressed the importance of the situation in which the leadership role is embedded, whilst still others urged that leadership be regarded from the two main viewpoints : (a) from that of the individual, leadership is an attribute of his role in the social setting; and (b) from that of the group, leadership is a quality of the structure of the group.

In Hemphill's own study, to which reference will be made later in this chapter, leadership is operationally defined as

> . . . the behaviour of an individual while he is involved in directing group activities. (6, p. 5).

It can be seen that the various approaches to a definition of a "leader" and of "leadership", as suggested by Hemphill, are integrated with the appropriate stages in approaches to an understanding of organizational leadership as suggested by Bennis. Leadership definition has correlations with the scientific management movement, the human relations movement, the situationist point of view, and, finally, the various sub-stages of the revisionist and resolutionist attempts at redefinition.

III. MAJOR ISSUES

Bennis notes that there are five major issues involved in questions of organizational leadership. (1, p. 288-290).

1. Basis and functions of authority.

Two major schools of thought see authority as a function of role encumbency on the one hand and as arising from role occupants with technical competence and expertise on the other. When knowledge and expertise are then differentiated into performance criteria and human aspects of administration, the issue becomes more complicated.

2. The sources of power.

Bennis detects "four primary loci of leadership",

(a) rewards and punishments instrumentally supplied by some exogenous agent;

(b) self control . . . through internalization of professional norms or other standards of excellence;

(c) institutions of authority and contract;

(d) group norms.

3. Objectives versus relationships.

This issue involves the problem of ascertaining whether the primary concern in leadership is with the task, with organizational requirements, or with interpersonal requirements and superior-subordinate work-group relationships.

4. Distance versus closeness.

The problems arising from questions of optimum social distance between leader and work-group are answered differently by traditional organizational theorists and by human relations theorists. The work of Fiedler (13) and of Steiner (27, pp. 268-274) is illustrative of contemporary thought in this area.

5. Consensual validation and decision-making.

Under this heading, Bennis says :

> The basic issue here is not whether groups are more effective than isolated individuals in problem-solving and creative thinking . . . but stems from more fundamental psychological and philosophical issues . . .

> The decision maker . . . often . . . has no recourse than to utilize a group, both as a security operation and as a validity tester . . . It may be the most expensive, valid and tedious (method). Nevertheless, psychologically, it is functional. (1, p. 294).

In this manner, Bennis indicates the major issues in organizational leadership theory, and, in doing so, offers a set of basic problems that a critic may employ as a vantage point from which to assess attempts to solve organizational leadership questions.

IV. STUDIES IN ORGANIZATIONAL LEADERSHIP

In the study reported by Hemphill, leadership was operationally defined as :

> . . . the behaviour of an individual while he is involved in directing group activity. (6, p. 5).

This definition is predicted upon an underlying assumption that leadership is a specific form of behaviour exhibited by an individual under the particular circumstances of the group activity which he is directing. Later, Halpin and Winer sharpened this definition by indicating that the particular form of group activity involved is that activity "of a group towards a shared goal". (4)

These researchers isolate and identify three factors as being of prime importance, and which necessitate identification and evaluation in any research into leader behaviour.

These three factors are (1) Leader behaviour, (2) Group situation, and (3) Judgments of leader adequacy.

The purpose of the Hemphill study was to investigate systematically the characteristics of group situations in their relation to the behaviour of leaders. The approach was in quite marked contrast to ones which previous researchers employed. In several earlier studies, leadership was investigated by contrasting the quality of leadership with other qualities in an individual's behaviour which were not leadership qualities. The approach contrasts also with that based upon the point of view that leadership is a quantitatively differing characteristic of individuals. Further, this approach can be contrasted with that which sought for the identification of types of leaders, and with those which saw leadership as an emergent functionalism of the group.

Hemphill and associates solved the problem of group description by setting up certain criteria and then selecting from lists of descriptions previously prepared by Lewin (23, pp. 868-896), Krout (15), Dodd (14) and Sanderson (26), a set of thirteen dimensions. These are autonomy, control, flexibility, hedonic tone, homogeneity, intimacy, participation, permeability, polarization, potency, stability, stratification, and viscidity.

The adequacy of leadership was measured as follows by Hemphill :

> The respondent completing the questionnaire was the judge of leadership adequacy. Adequate leadership is therefore defined in terms of a follower's judgment of the adequacy of behaviour of an individual in the leadership role. Behaviour on the part of an individual which results in his being considered a good or excellent leader is adequate leadership. (6, p. 55).

Relations between judgments of leadership adequacy and group dimensions were then established by forcing a dichotomous classification of leadership adequacy into "high" and "low" leaders. A similar dichotomous classification of each of the dimensional scores was then made, and the relationships were tested by computing the tetrachoric coefficients of correlation.

The next relationships sought were those between the behaviour of leaders and leadership adequacy. The behaviour of leaders was indicated by the respondents on a check list of seventy items which expressed various forms of behaviours. The relationships were tested by chi-square tests to establish the presence of association, and the strengths of the associations discovered were expressed as contingency coefficients (6, pp. 67-68).

The behaviour of leaders as related to group dimensions was then investigated. Again, both variables were forced into dichotomies and contingency coefficients calculated. The results were interpreted as follows :

> Two factors, Consideration and Initiating Structure, accounted for 83 percent of the total factor variance. Attempts to improve the contributions of the two remaining factors by increasing the number of items for their measurement proved unsuccessful. Efforts were therefore concentrated upon the task of developing the best possible short scales for describing Consideration and Initiating Structure . . . (4, p. 51).

In yet another work, Halpin discusses the two major dimensions of leader behaviour as follows :

> . . . the Ohio State group has identified two major dimensions of leader behaviour : Initiating Structure in Interaction and Consideration.
>
> Initiating Structure refers to the leader's behaviour in delineating the relationship between himself and the members of the group, and in endeavouring to establish well-defined patterns of organization, channels of communication, and ways of getting the job done.
>
> Consideration refers to behaviour indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of the group. (2, pp. 170-171).

Carl H. Rush, Jr. reports a study which was designed to determine the relationships between leader behaviour and certain characteristics of the group. The instruments used were the LBDQ and the GDDQ. Of the latter instrument he says,

> Factor analysis was used to reduce the number of dimensions from 13 to 5. The resulting dimensions are Control, Intimacy, Stratification, Procedural Clarity, and Harmony. (8, p. 69).

The group studied comprised three samples of aircrew totalling 312 crews. Rush reports :

> The number of significant coefficients obtained far exceeds the number that could be explained by chance factors alone. Apparently factors in the group situation (as they are reflected in the group dimensions) are associated with the observations of the behaviour of leaders reported by the respondents. (6, p. 78).

The conclusions of the study were reported, in part, as follows :

> . . . significant relations between factors in the group and the behaviour of leaders (have been discovered) . . . a situational approach to the study of leadership has yielded additional insights into the functioning of individuals in a leadership role. (6, p. 101).

V. LEADER BEHAVIOUR: DESCRIPTION AND MEASUREMENT

The preliminary steps in the development of an instrument for measuring and describing leader behaviour are described by Hemphill and Coons. (7, p. 6-38). The result of the studies they report was the development of the Leader Behaviour Description Questionnaire, which was subject to considerable modifications as a result of further studies. One such study is reported by Halpin and Winer (4, pp. 39-51), in which a factor analysis of the data provided by the application of the LBDQ in the study of Air Force personnel manning bombardment aircraft resulted in the isolation and identification of four major factors termed Consideration, Initiating Structure, Production Emphasis, and Sensitivity (Social Awareness). Of these four factors, the authors report :

> . . . Consideration . . . is correlated with Intimacy and Harmony in the crew. Consideration is correlated negatively with Control and Stratification. Initiating Structure shows a consistently high correlation only with Procedural Clarity . . . correlations between Harmony and Initiating Structure tend to be much lower than those between Harmony and Consideration . . . (8, p. 70).

A determined attempt was made by the author in 1959-60 to contact Dr. Carl H. Rush, and to obtain copies of his instrument, but with no success.

VI. GROUP DIMENSIONS: DESCRIPTION AND MEASUREMENT

A Group Dimensions Description Questionnaire (GDDQ) was developed by J. K. Hemphill and associates of the Ohio State University. The GDDQ consisted of 150 statements about group characteristics or attributes. The respondent indicates to what degree he perceived each characteristic as pertaining to the group upon which he is reporting.

Scores are yielded on thirteen dimensions :

Autonomy	Control	Flexibility
Hedonic Tone	Homogeneity	Intimacy
Participation	Permeability	Polarization
Potency	Stability	Stratification
Viscidity		

A profile of an individual's perception of a group may be constructed from his ratings of these dimensions. This profile may be used either

(a) to assess an individual group-member's particular orientation towards his group: or

(b) to obtain a description of major dimensions of a group as seen by its members (5, p. 2-4).

Scores on these thirteen dimensions were converted into stanines for ease of statistical treatment.

Hemphill reports, concerning one of the groups studied :

> Sample E consists of descriptions of school staffs supplied by 320 public school teachers . . . The Stanine Scores for this sample differ from the distribution for the entire standard population in the following respect . . .
>
> (Control) The school is seen to exercise moderate control over its teachers.
>
> (Intimacy) The unit is described as relatively less intimate than other groups.
>
> (permeability) The school unit is seen to be moderately difficult to join.
>
> (Potency) The teachers regard the school unit as relatively important to them as a group.
>
> (Autonomy) The school unit is seen to be a relatively autonomous group by teachers.
>
> (Homogeneity) The school unit is regarded by teachers to be relatively heterogeneous.
>
> (stability) The school is seen by teachers as a relatively stable group.
>
> (Participation) There is a tendency for teachers to regard their group as requiring considerable participation.
>
> (Stratification) Teaching groups place little emphasis upon stratification. (5, pp. 21-23).

In general, Hemphill has thus shown that the GDDQ does differentiate between teaching groups per se in the U. S. A. and the heterogeneous groups comprising the base population.

He reports estimates of reliability as ranging from a low of . 50 for Stability to a high of . 92 for Autonomy (5, p. 25).

CHAPTER III

DESIGN AND LIMITATIONS

I DESIGN

Data were gathered from elementary schools in Calgary, Alberta, through the responses of staff members to two questionnaires, the LBDQ and the GDDQ. These data were used in testing the eight hypotheses advanced in the study.

The Null Hypotheses

$H_{0.1}$ There is no difference between the descriptions of elementary school teaching staffs in Calgary and descriptions of the groups comprising the base population.

$H_{0.2}$ There is no difference between the descriptions of elementary school teaching staffs in Calgary and descriptions of the teaching groups in the base population.

$H_{0.3}$ There is no difference between the descriptions of elementary school teaching staffs in Calgary whose principals are described as having high I-scores and those whose principals are described as having low I-scores.

$H_{0.4}$ There is no difference between the descriptions of elementary school teaching staffs in Calgary whose principals are described as having high C-scores and those whose principals are described as having low C-scores.

$H_{0.5}$ There is no difference between the descriptions of elementary school teaching staffs in Calgary whose principals are described as having both high I-scores and high C-scores and those whose principals are described as having both low I-scores and low C-scores.

$H_{0.6}$ There are no significant differences among the median scores of (a) principals on the LBDQ, and (b) staffs on the GDDQ, the instruments providing no objective criteria of measurements of the dimensions of leadership and of group characteristics.

$H_{0.7}$ There is no correlation between either dimension of the LBDQ and the dimensions of the GDDQ that is significantly different from zero, the scores on each of the GDDQ dimensions being independent of the scores on the LBDQ dimensions.

$H_{0.8}$ There is no correlation between pairs of dimensions of the GDDQ that is significantly different from zero, the scores on each being independent of the scores on every other dimension.

The Instruments

The instruments used for gathering the data required were the Leader Behaviour Description Questionnaire and the Group Dimensions Description Questionnaire, together with a data sheet. Copies of these are appended.

Populations Involved in the Study

The Base Population. The base population for the GDDQ is

> . . . a sample of 950 residents (of the U. S. A.). Although it is the best one available at this time, this "standard population" is not to be regarded as strictly representative of any specific population . . . Thus these norms . . . must be considered "tentative norms". (5, p. 6).

In the light of the above qualification, the distribution of P_n-scores, in terms of Stanines, S_n, is considered merely as a sample frequency distribution against which observed frequency distributions are statistically tested.

The Teaching Groups of the Base Population. This population

> . . . consists of descriptions of school staffs supplied by 320 public school teachers (in the U. S. A.) . . . (5, p. 20).

This population, being different from the base population, also serves as a sample; the distribution of its P_n-scores in terms of S_n, serves as a sample frequency distribution against which observed frequency distributions are statistically tested. The S_n-distribution of the teaching groups of the base population on each of the characteristics can be found in Table XXI, page 50.

As the sample employed in this study comprises female teachers on elementary school staffs and principals from one city system in Alberta only, any comparisons between distributions of S_n-scores of this sample with S_n-scores of the teaching groups of the base populations must be made with this limitation clearly in mind.

II. LIMITATIONS OF THE STUDY

Measurement Employed in the LBDQ

Some extensive assumptions in measurement have been made by the researchers who compiled the LBDQ, but as this instrument is used in this study mainly as a dichotomizing device for distinguishing among staffs whose principals are (a) either high or low on the I-dimension, (b) either high or low on the C-dimension, (c) either high or low on both dimensions jointly, the measurement assumptions are not restrictive, the major ones of concern being :

> (1) The relation between the I-dimension and the numbers assigned as I-scores, and the relation between the C-dimension and the numbers assigned as C-scores, are so direct that by certain permissible arithmetic manipulations of the assigned numbers new information may be obtained.

(2) Both the I-scores and the C-scores fall into at least an ordinal scale.

As there is no evidence to show that the measurement of the dimensions of the LBDQ is at a level greater than ordinal, non-parametric tests are used in preference to parametric tests in the analysis of data based upon this instrument.

Measurement Employed in the GDDQ

It is apparent from the report of the development and use of the GDDQ instrument that some extensive assumptions have been made by the researchers who compiled and analysed the GDDQ. In contrast to the comparative freedom from restriction attending the treatment of data obtained through the use of the LBDQ in this study, the treatment of data obtained through the use of the GDDQ is quite restricted.

The measurement assumptions of the GDDQ are :

(1) The relation between each group-characteristic and the numbers assigned as P_n-scores for each group respectively is so direct that by certain permissible arithmetic manipulations of the assigned numbers, new information may be obtained.

(2) Each set of P_n-scores falls into at least an ordinal scale.

(3) Each set of $P_{\bar{n}}$-scores is drawn from and is representative of an underlying continuous distribution of the property to which it refers.

(4) Each set of P_n-scores may be expressed in terms of Stanines, S_n, for the facilitation of analysis of the data.

Whereas the expression of a set of observations in terms of stanines usually assumes an underlying normality of distribution, for the purposes of this study such an assumption will not be made. Rather, it is maintained that the re-distribution of P_n-scores to S_n-scores is merely a device for reducing and equating the ranges of each set, P_n, re-ordering each set into nine ordinal categories.

(5) The assumptions (1), (2), (3) for P_n-scores hold for the corresponding S_n-scores.

As there is no evidence to show that measurement of the thirteen dimensions of the GDDQ is at a level higher than ordinal, non-parametric tests are used in preference to parametric tests in the analysis of data supplied by this instrument.

Measure of Representativeness

In all cases, whenever a representative score is needed for a set of observations, the median will be the one used.

To dichotomize scores, those falling above the median score will be designated as "high"; those at or below the median will be termed "low".

II. PROCEDURE FOR GATHERING DATA

With the permission of the Calgary School Board, the principals and staffs of 24 elementary schools having not less than 6 and not more than 20 classrooms, and having no grades above Grade VI, were contacted in May, 1960, to ascertain if they would be willing to participate in the study. Immediate replies were received from all the schools aontacted acceding to the request.

When lists of personnel in these schools were perused, it was seen that all male personnel other than the principal were either assistant principals or vice-principals. The decision was then made to exclude such persons and the female assistant principals or vice-principals from the study, in order to avoid introducing another variable. In schools of more than five female teachers, a table of random numbers was used to select the five potential respondents.

Each school participating the study was visited during the first week of June, 1960. The principal and five female teachers were interviewed and the purpose and design of the study outlined to them. Each of the five female teachers was asked to complete a data sheet, to rate the principal on the LBDQ, and to describe the staff on the GDDQ.

Each respondent, upon completing the three items, placed them in a plain envelope and sealed it. One designated staff member collected these envelopes and mailed them in a plain sealed envelope to the Division of Educational Administration, University of Alberta, Edmonton.

One hundred percent of the questionnaires was received completed.

III. SOURCE AND TYPE OF DATA

Data were thus gathered from questionnaires completed by 120 female teachers, 5 from each of 24 Calgary elementary schools. The questionnaires supplied the following information:

a. Size of school staff.
b. Number of male teachers on staff.
c. Age of respondent.
d. Length of teaching experience of respondent.
e. Length of period of association with principal.
f. Sex of respondent.
g. Rating of principal on I-dimension of LBDQ.
h. Rating of principal on C-dimension of LBDQ.
i. Description of staff in terms of each of the 13 dimensions of GDDQ.

The data were transcribed on to I. B. M. cards for ease of statistical treatment.

IV. ANALYSIS OF DATA

THE KOLMOGOROV-SMIRNOV TWO-SAMPLE TWO-TAILED TEST

> (This) is a test of whether two independent samples have been drawn from the same population or from populations with the same distribution . . . sensitive to any kind of difference in the distributions from which the two distributions are drawn. (9, p. 127).

This statistical test is employed in testing the first null hypothesis to ascertain whether or not the Calgary sample and the Base Population have been drawn from populations having the same distribution, relative to the GDDQ. It is also employed in testing the second null hypothesis to ascertain whether or not the Calgary sample and the Teaching Groups of the Base Population have similarly been drawn from populations having the same distribution.

It is further employed in testing the third, fourth, and fifth null hypotheses to ascertain whether or not Calgary staffs associated with principals high in each dimension of the LBDQ represent populations having the same distributions as those represented by Calgary staffs associated with principals low in each dimension of the LBDQ.

THE KRUSKAL-WALLIS ONE-WAY ANALYSIS OF VARIANCE BY RANKS

> (This) is an extremely useful test for deciding whether k independent samples are from different populations . . . (It) tests the null hypothesis that the k samples come from the same population or from identical populations with respect to averages. (9, p. 184).

This statistical test is employed in testing the sixth null hypothesis that there are no differences among the ratings made by the respondents of the 24 principals and staffs on the LBDQ and GDDQ, i. e. in testing whether or not the principals and staffs are being rated validly enough so that they may not be considered as being drawn from the same population.

THE SPEARMAN'S COEFFICIENT OF CORRELATION BY RANKS

The Spearman's coefficient of correlation by ranks is a test for finding the intercorrelations among a number of sets of scores at an ordinal level of measurement. As the non-parametric analysis of variance requires that all the scores be replaced by their rank order equivalents, the median ranks of each set of five ranks per school may then themselves be ranked in order to determine the degrees of correlation. It is used in testing the seventh and eighth null hypotheses, concerning the correlations between pairs of dimensions of the LBDQ and the GDDQ.

CHAPTER V

CHARACTERISTICS OF THE SAMPLE

I THE RESPONDENTS

The following tables present a tabulation of the data provided by the 120 female respondents in this study, indicating the distributions of (a) sizes of schools, (b) ages of teachers, (c) length of teaching experience of teachers, and (d) length of teachers' associations with their principals.

TABLE I

SIZES OF SCHOOLS AND NUMBER OF RESPONDENTS

	8 rooms or less	9 - 11 rooms	12 - 14 rooms	15 - 17 rooms	18 rooms or more	Total
No. of Schools	6	4	10	2	2	24
No. of Teachers	30	20	50	10	10	120

TABLE II

AGES OF THE RESPONDENTS

	29 yr. or less	30-39 yr.	40-49 yr.	50-59 yr.	60 yr. or more	Total
No. of Teachers	39	25	31	18	7	120

TABLE III

YEARS OF TEACHING EXPERIENCE OF THE RESPONDENTS

	1 yr. or less	2 - 4 yr.	5 - 14 yr.	15-25 yr.	26 yr. or more	Total
No. of Teachers	9	18	57	24	12	120

TABLE IV

YEARS OF ASSOCIATION WITH PRINCIPAL

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr. or more	Total
No. of Teachers	58	20	26	8	8	120

Discussion

The typical respondent in this study, based upon median categories in Tables I to IV inclusive, is 30 to 39 years of age, has had from 5 to 14 years of teaching experience, has had 2 years of professional association with her principal, and works in a school of from 12 to 14 rooms.

II RELATIONSHIPS BETWEEN LBDQ RESULTS AND OTHER DATA

The following tables show the distribution of observed I-scores and C-scores provided by the120 respondents, the medians and quartile points of these distributions and the relations between these variables and the variables reported in Tables I to IV.

(1) Initiating Structure

Tables V to X inclusive deal with the observed distributions of I-scores.

Table V shows the frequency distribution of 120 I-scores, Table VI shows the I-score medians, first and third quartiles, and quartile deviations. Tables VII to X show the relationship of low and high I-scores to various data relevant to the respondents.

TABLE V

FREQUENCY DISTRIBUTION OF 120 I-SCORES

Class Interval	Score Interval	Number of Cases	Cumulative Frequency
9	55.5-60.5	4	120
8	50.5-55.5	10	116
7	45.5-50.5	32	106
6	40.5-45.5	28	74
5	35.5-40.5	15	46
4	30.5-35.5	12	31
3	25.5-30.5	8	19
2	20.5-25.5	9	11
1	15.5-20.5	2	2

TABLE VI

I-SCORE MEDIANS, FIRST AND THIRD QUARTILES, AND QUARTILE DEVIATIONS

	Sample	Population *
Third Quartile	48	41
Median	43	39
First Quartile	35	35
Quartile Deviation	6.5	3.0

* NOTE : Population values are taken from the LBDQ Manual (3, p. 10).

TABLE VII

DISTRIBUTION OF LOW-I AND HIGH-I SCORES
RELATIVE TO THE SIZES OF SCHOOLS

	- 8 rooms	9 - 11 rooms	12-14 rooms	15-17 rooms	18 - rooms	Total
Low-I	19	9	27	4	4	63
High-I	11	11	23	6	6	57

TABLE VIII

DISTRIBUTION OF LOW-I AND HIGH-I SCORES
RELATIVE TO AGES OF RESPONDENTS

	- 29 years	30-39 years	40-49 years	50-59 years	60 - years	Total
Low-I	25	14	15	7	2	63
High-I	14	11	16	11	5	57

TABLE IX

DISTRIBUTION OF LOW-I AND HIGH-I SCORES
RELATIVE TO TEACHING EXPERIENCE OF RESPONDENTS

	- 1 years	2 - 4 years	5 - 14 years	15-25 years	26 - years	Total
Low-I	5	13	28	13	4	63
High-I	4	5	29	11	8	57

TABLE X

DISTRIBUTION OF LOW-I AND HIGH-I SCORES RELATIVE TO RESPONDENT'S YEARS OF ASSOCIATION WITH PRINCIPALS

	1 year	2 years	3 years	4 years	5 or more years	Total
Low-I	29	11	11	6	6	63
High-I	29	9	15	2	2	57

Discussion

A series of preliminary hypothesis were tested to ascertain whether or not any relationships existed between I-scores and the variables reported in Table VII to Table X inclusive. The test employed was the Kolmogorov-Smirnov two-sample two-tailed test (qui vive). No significant relationships were found to exist. The critical values of D, the statistic employed in this test, is D = 0.25 at the .05 level of significance. The observed D's were considerably below this critical value.

Hence it is concluded that the ratings of principals on the I-dimension of the LBDQ are not influenced by the variables of size of school, age of respondent, length of teaching experience or respondent, or length of association with principal.

(2) Consideration

Tables XI to XVI inclusive deal with the observed distributions of C-scores.

Table XI shows the frequency distribution of 120 C-scores, Table XII shows the C-score medians, first and third quartiles, and quartile deviations. Tables XIII to XVI show the relationship of low-C and high-C scores to various data relevant to the respondents.

TABLE XI

FREQUENCY DISTRIBUTION OF 120 C-SCORES

Class Interval	Score Interval	Number of cases	Cumulative Frequency
8	55.5-60.5	21	120
7	50.5-55.5	47	99
6	45.5-50.5	22	52
5	40.5-45.5	11	30
4	35.5-40.5	5	19
3	30.5-35.5	7	14
2	25.5-30.5	6	7
1	20.5-25.5	1	1

TABLE XII

C-SCORE MEDIANS, FIRST AND THIRD QUARTILES, AND THE QUARTILE DEVIATIONS

	Sample	Population *
Third Quartile	54	49
Median	50	46
First Quartile	45	42
Quartile Deviation	4.5	3.5

* NOTE : Population values are taken from the LBDQ Manual (3, p. 10).

TABLE XIII

DISTRIBUTION OF LOW-C AND HIGH-C SCORES RELATIVE TO THE SIZES OF SCHOOLS

	- 8 rooms	9 - 11 rooms	12-14 rooms	15-17 rooms	18 - rooms	Total
Low-C	15	7	27	5	5	59
High-C	15	13	23	5	5	61

TABLE XIV

DISTRIBUTION OF LOW-C AND HIGH-C SCORES
RELATIVE TO AGES OF RESPONDENTS

	- 29 years	30-39 years	40-49 years	50-59 years	60 - years	Total
Low-C	22	14	14	7	2	59
High-C	17	11	17	11	5	61

TABLE XV

DISTRIBUTION OF LOW-C AND HIGH-C SCORES
RELATIVE TO YEARS OF TEACHING EXPERIENCE OF RESPONDENTS

	- 1 years	2 - 4 years	5 - 14 years	15-25 years	26 - years	Total
Low-C	3	12	29	11	4	59
High-C	6	6	28	13	8	61

TABLE XVI

DISTRIBUTION OF LOW-C AND HIGH-C SCORES RELATIVE TO RESPONDENTS' YEARS OF ASSOCIATION WITH PRINCIPALS

	1 year	2 years	3 years	4 years	5 or more years	Total
Low-C	25	9	14	5	6	59
High-C	33	11	12	3	2	61

Discussion

As was the case with I-scores (p. 37) no significant relationships exist between C-scores and the variables in Tables XIII to XVI.

Hence it can be concluded that the ratings of principals on the C-dimension of the LBDQ are not influenced by the variables of size of school, age of respondent, length of teaching experience of respondent, or length of association with principal.

Table XVII shows the relationships between the two dimensions of the LBDQ as indicated by this study. "High" scores are those above the median score; "Low" scores are those at or below the median score on each dimension.

TABLE XVII

RELATIONSHIPS BETWEEN DIMENSIONS OF LBDQ

	LOW-I	HIGH-I
HIGH-C	17	44
LOW-C	46	13

CHAPTER VI

TESTING THE HYPOTHESES

I TEST FOR FIRST NULL HYPOTHESIS

Null hypothesis.

There is no difference between the distributions of S_n-scores of the sample and that of the base population.

Research hypothesis.

The proportions of S_n-scores in the categories differ from those shown in Table XVIII.

TABLE XVIII

BASE POPULATION:
PROPORTIONS OF GDDQ SCORES IN STANINES

STANINE :	1	2	3	4	5	6	7	8	9
PROPORTION :	.04	.07	.12	.17	.20	.17	.12	.07	.04

Statistical test.

The Kolmogorov-Smirnov two-sample, two-tailed test has been chosen because the distributions of S_n-scores of the sample and of the Base Population constitute two independent distributions and because the S_n-scores constitute at most an ordinal scale.

Sampling distribution.

The sampling distribution will be found in Table M of Siegel (9, p. 279).

The statistic used, D, is defined as

$$D = \text{maximum } |Z_1 - Z_2|$$

where Z_1 is the distribution for the Base Population ($N_1 = 950$) and Z_2 is that for the sample ($N_2 = 120$).

The critical value of D is 0.132 at the .05 level of significance.

Results.

The observed cumulative proportions frequency distributions of S_n-scores on each dimension of the GDDQ are shown in Table XIX, page 45. The entry in the Stanine category in which each D occurs is underlined. Decimal points have been omitted from this table.

Decision.

The null hypothesis was rejected or accepted as shown in Table XX, page 46. In this table, (+) indicates sample values greater than base population values, and (-) indicates sample values smaller than base population values.

TABLE XIX

OBSERVED CUMULATIVE PROPORTIONS
DISTRIBUTIONS OF SCORES ON THE GDDQ

Dimension	Stanine Categories									D
	1	2	3	4	5	6	7	8	9	
1	07	25	61	76	89	91	95	98	100	36
2	02	08	18	45	65	80	94	98	100	05
3	06	14	29	49	67	77	91	97	100	09
4	00	02	13	22	36	64	76	90	100	24
5	06	12	32	51	74	85	92	97	100	14
6	00	01	08	31	61	85	94	98	100	15
7	01	02	14	27	41	61	83	90	100	19
8	00	02	15	52	85	98	100	100	100	25
9	00	01	04	13	34	61	81	95	100	27
10	02	06	11	23	41	69	91	99	100	19
11	10	16	34	44	51	68	81	86	100	11
12	05	10	23	45	72	85	96	100	100	12
13	02	03	07	17	41	61	81	95	100	23
Base Population										
	04	11	23	40	60	77	89	96	100	

NOTE: Decimal points have been omitted from this Table.

TABLE XX

DIMENSIONS OF THE GDDQ FOR WHICH THE FIRST NULL HYPOTHESIS WAS REJECTED

n	GDDQ Dimension	D	H_0 Rejected	Level of Significance	Direction
1	Autonomy	.36	Yes	.01	-
2	Control	.05	No		
3	Flexibility	.09	No		
4	Hedonic Tone	.24	Yes	.01	+
5	Homogeneity	.14	Yes	.05	-
6	Intimacy	.15	Yes	.01	+
7	Participation	.19	Yes	.01	+
8	Permeability	.25	Yes	.01	-
9	Polarization	.27	Yes	.01	+
10	Potency	.19	Yes	.01	+
11	Stability	.11	No		
12	Stratification	.12	No		
13	Viscidity	.23	Yes	.01	+

Discussion

In this discussion, it is to be understood that all descriptions of Calgary staffs are relative to the social groups comprising the base population.

Analysis of the results shown in Table XX indicates that the respondents in this study describe Calgary elementary school staffs as being pleasant and agreeable groups with which to work (high Hedonic Tone). These staff members perceive a considerable degree of intimacy reflected in their day-to-day contacts with one another (high Intimacy) which they describe as being friendly, co-operative, and personally satisfying in nature.

Membership in a school staff is seen as demanding considerable participation in staff activities (high Participation) both formally required and voluntarily offered. These activities are oriented towards goals which seem clear and specific to the staff members (high Polarization), and in this goal-oriented behaviour, the staffs seem to function as units with a minimum of dissension and personal conflict among members (high Viscidity).

The elementary school staffs tend to have primary significance for their members, being potentially, if not actually, able to satisfy a variety of social needs of the teachers (high Potency), and in satisfying these needs

each group tends to be moderately impermeable (low Permeability).

The staffs are described as being quite heterogeneous in regard to several socially-relevant characteristics, wide variations being noted with respect to age, socio-economic status, interests, attitudes and habits (low Homogeneity). Other factors, then, must be operative which allow for the relatively high levels of intimacy of personal relationships, participation in group activities, goal-oriented behaviour, unity of group function, and the primary significance of the group to its members.

Calgary staffs are described as having low Autonomy, occupying places in society that are somewhat dependent upon other groups which influence the activities, allegiances and goals of the teaching groups.

The respondents perceive their staffs as being similar to other social groups in the degree to which the groups regulate the behaviour of in dividual group-members (Control), in their freedom from restrictive demands of custom, tradition, formal regulation, and codes of behaviour (Flexibility), in their rate of membership turnover (Stability), and in the degree that the group orders its members into status hierarchies (Stratification).

II. TEST FOR SECOND NULL HYPOTHESIS

Null hypothesis

There is no difference between the distribution of S_n-scores of the sample and that of the teaching groups of the base population.

Research hypothesis

The cumulative proportions of S_n-scores falling in the stanine categories on each of the 13 dimensions of the GDDQ, as shown in Table XIX, page 45, differ from the cumulative proportions of the teaching groups of the base population, shown in Table XXI, page 50.

Statistical Test

The Kolmogorov-Smirnov two-sample, two-tailed test has been chosen because the distributions of S_n-scores of the sample and of the teaching groups of the base population constitute two independent distributions, and because the S_n-scores constitute at most an ordinal scale.

Sampling distribution

The sampling distribution will be found in Table M of Siegel (9, p. 279).

The statistics used, D, is defined as

$$D = \text{maximum} \left| Z_1 - Z_2 \right|$$

where Z_1 is the distribution for the teaching groups of the base population ($N_1 = 320$), and Z_2 is that for the sample ($N_2 = 120$).

TABLE XXI

TEACHING GROUPS OF THE BASE POPULATION - CUMULATIVE PROPORTIONS DISTRIBUTIONS OF SCORES ON THE GDDQ

Dimensions	Stanine Categories								
	1	2	3	4	5	6	7	8	9
1	02	06	17	33	54	70	84	94	100
2	00	01	09	23	43	61	83	94	100
3	06	15	32	47	65	78	90	97	100
4	06	10	30	43	64	83	88	96	100
5	05	12	31	50	76	89	99	100	100
6	10	24	48	70	85	93	99	100	100
7	05	14	27	40	56	71	88	96	100
8	04	16	35	60	85	97	100	100	100
9	03	11	21	36	56	74	90	96	100
10	03	10	19	34	50	71	87	95	100
11	02	06	17	32	49	65	83	93	100
12	05	15	27	49	65	82	94	99	100
13	06	14	27	45	67	84	92	99	100

NOTE: Decimal points have been omitted from this Table.

This Table is taken from Hemphill (5, p. 13).

The critical value of D is 0. 146 at the . 05 level of significance.

Results

The observed cumulative proportions distributions are those shown in Table XIX, page 45, D is found by comparing these with the cumulative proportions distributions for the teaching groups of the base population shown in Table XXI, page 50.

Decision

The second null hypothesis was accepted or rejected as shown in Table XXII, page 52.

Discussion

Calgary elementary school staffs appear to differ from the staffs in the U. S. A. which comprise the teaching groups of the base population in at least three socially-relevant characteristics (Tables II to V, pp. 33-35; and 5, pp. 21-22). The distribution of ages of the staffs shows that the Calgary sample median category is lower than that of the U. S. A. sample, the Calgary median category being 30-39 years, the U. S. A. median category being 40-49 years. More than 32% of Calgary staffs are less than 30 years of age, whereas only 17% of the U. S. A. staffs are in this category.

TABLE XXII

DIMENSIONS OF THE GDDQ FOR WHICH THE SECOND NULL HYPOTHESIS WAS REJECTED

n	GDDQ	D	$H_{0.2}$ Rejected	Level of Significance	Direction
1	Autonomy	.43	Yes	.001	-
2	Control	.22	Yes	.001	-
3	Flexibility	.03	No		
4	Hedonic Tone	.28	Yes	.001	+
5	Homogeneity	.07	No		
6	Intimacy	.40	Yes	.001	+
7	Participation	.13	No		
8	Permeability	.20	Yes	.005	+
9	Polarization	.23	Yes	.001	+
10	Potency	.11	No		
11	Stability	.17	Yes	.05	-
12	Stratification	.07	No		
13	Viscidity	.28	Yes	.001	+

NOTE: + indicates Calgary sample values greater than the values of the teaching groups of the base population.

- indicates Calgary sample values smaller than the values of the teaching groups of the base population.

The median ages are approximately 38 and 42 years respectively. Calgary has only 26% of its teachers in the 40-49 years category, whereas 35% are in this category in the U. S. A.

Calgary staffs, too, have significantly less teaching experience than U. S. A. staffs, the median categories being, respectively, 5-14 years of experience and 15-25 years of experience. The medians are approximately 10 and 16 years respectively.

Furthermore, the Calgary sample comprises 120 female elementary teachers, while the teaching groups of the base population comprises 31 elementary out of a total of 320 teachers. Information of the sex distribution of these 31 teachers is not available.

With these differences in basic characteristics kept in mind, this study indicates that the sample differs from the teaching groups of the base population on the following group dimensions :

Autonomy. The teaching groups of the base population describe the school unit as a relatively autonomous group occupying a place in society independent of other groups (5, p. 21). The teachers in the Calgary sample, on the other hand, describe their school staffs as considerably less autonomous than do U. S. A. teachers.

Control. The school unit in the U. S. A. is seen to exercise moderately high control over the conduct of its teachers (5, p. 21). Calgary staffs differ from the U. S. A. staffs in this regard, indicating that the school unit regulates the behaviour of its staff members to a considerably less degree than is the case in the teaching groups of the base population, but to a similar degree to that reported by Hemphill for the social groups that comprise the base population (5, p. 8). This indicates that there tends to be a greater degree of individual freedom of action and a smaller degree of group-derived government on Calgary staffs than are found on the U. S. A. staffs.

Flexibility. This study indicates that no significant differences exist between the Calgary sample and the teaching groups of the base population on the dimension of flexibility.

Hedonic Tone. Calgary staffs perceive their group membership as being significantly more pleasant and agreeable than do U. S. A. staffs who, in turn, find their level of hedonic tone no different from that of other socially relevant groups (5, p. 21).

Homogeneity. It is reported by Hemphill that the school unit is regarded by teachers to be relatively heterogeneous in membership (5, p. 23). No significant difference

exists between the Calgary sample and the teaching groups of the base population on this dimension.

Intimacy. Calgary teachers' responses to the GDDQ indicate that they are mutually acquainted with one another and familiar with the most intimate details of one another's lives to a greater extent than are the teachers in the teaching groups of the base population.

Participation. There is evidence that teachers in the U. S. A. regard their group membership as demanding considerable participation in group activities (5, p. 23). This is so for Calgary teachers to an even greater degree.

Permeability. Hemphill reports that the teaching groups of the base population differ from other social groups in being moderately difficult to join (5, p. 21). Calgary teachers, too, indicate that this is the case, but to a smaller degree. For the Calgary sample, it appears that they are less permeable than the base population, but somewhat more permeable than the teaching groups of the base population.

Polarization. This study indicates that Calgary staffs are oriented towards goals that are clear and specific to the staff members to a significantly greater extent than are U. S. A. staffs, and than are other social groups.

Potency. The teaching groups of the base population are reported as regarding the school units as relatively important to them socially. The respondents in this study indicate a similar point of view, but much more strongly. Apparently the school staff has important meaning for its members with reference to their central values. The rank order, in terms of decreasing potency, for the three groups is (1) Calgary sample, (2) teaching groups of the base population, (3) base population.

Stability. The school is reported by Hemphill (5, p. 32) as a relatively stable group with little turnover in its basic characteristics. Values for the Calgary sample indicate that these groups see their staffs as being as stable as most groups, yet significantly less stable than U. S. A. staffs in the teaching groups of the base population.

Stratification. Hemphill preports little emphasis on stratification forthe teaching groups of the base population (5, p. 23). This study indicates that there appears to be no difference between the Calgary and the U. S. A. staffs on this dimension, yet both are somewhat less stratified than are other social groups.

Viscidity. This study indicates that Calgary staffs function as units with an absence of dissension and personal conflict to a significantly higher degree than do other social groups, and especially than do the teaching groups of the base population.

Summary. In general, the GDDQ scores have revealed that the sample of Calgary teachers rate their staffs as being significantly higher than U. S. A. staffs on the following dimensions :

(a) Hedonic Tone
(b) Intimacy
(c) Permeability
(d) Polarization
(e) Viscidity

They rate their staffs as being significantly lower than U. S. A. staffs on the following dimensions :

(a) Autonomy
(b) Control
(c) Stability

They perceive their efforts as being no different from U. S. A. staffs on the remaining dimensions :

(a) Flexibility
(b) Homogeneity
(c) Participation
(d) Potency
(e) Stratification

In general, then, it may be inferred that Calgary staffs are pleasant and agreeable groups with which to work. Staff members are closely acquainted with one another and are familiar with personal details of one another's lives. Members apply considerable time and effort to group activities, voluntarily assuming many non-assigned duties, while working towards goals that are clear and specific to the teachers. The staffs appear to work as functional units with an absence of dissension, yet the group does not appear to regulate the behaviour of its members to any greater extent than it does in other social or U. S. A. teaching groups.

III. TEST FOR THIRD NULL HYPOTHESIS

Null hypothesis

There is no difference between the distributions of S_n-scores of staffs associated with principals having high I-scores and those associated with principals having low I-scores.

Research hypothesis

The distribution of S_n-scores of staffs associated with principals having high I-scores differ from the distributions of S_n-scores of staffs associated with principals having low I-scores.

Statistical Test

The Kolmogorov-Smirnov two-sample, two-tailed test has been chosen because principals with high I-scores and the staffs associated with them, and principals with low I-scores and the staffs associated with them, constitute two independent groups, and the appropriate S_n-scores constitute at most an ordinal scale.

Sampling distribution.

The sampling distribution will be found in Table M of Siegel (9, p. 279).

The statistic used, D, is defined as

$$D = \text{maximum} \left| Z_1 - Z_2 \right|$$

where Z_1 relates to low-I principals ($N_1 = 63$), and Z_2 relates to high-I principals ($N_2 = 57$).

The critical value of D is 0.249 at the .05 level of significance.

Results

The observed cumulative proportions distributions are shown in Table XXIII, page 60. In this table decimal points have been omitted. D is found by comparing the distributions of ratings relating to low-I principals with the distributions relating to high-I principals. The stanine categories in which the maximum difference, D, occurs, have been underlined, and the entry for each difference is placed with the distribution for which the median value on the relevant dimension is the greater. With each dimension, n, of the GDDQ, the cumulative proportions distribution associated with low-I principals precedes that associated with high-I principals.

Decision

The third null hypothesis was rejected or accepted as shown in Table XXIV, page 61.

TABLE XXIII

CUMULATIVE PROPORTIONS DISTRIBUTIONS OF THE GDDQ ASSOCIATED WITH LOW-I AND HIGH-I PRINCIPALS

Dimensions	n	Stanine Categories 1	2	3	4	5	6	7	8	9	D
1		06	24	57	73	85	87	92	97	100	10
		09	27	65	79	93	97	99	100	100	
2		03	11	19	50	69	84	97	98	100	
		00	05	18	39	60	77	92	92	100	11
3		03	05	16	35	52	65	87	95	100	32
		09	23	44	65	84	92	97	100	100	
4		00	02	19	30	43	66	76	93	100	
		00	04	07	12	29	62	75	88	100	18
5		05	11	30	46	76	90	93	99	100	12
		07	12	34	58	72	81	92	97	100	
6		00	00	10	38	74	90	98	100	100	
		00	02	07	23	49	79	90	97	100	25
7		02	03	22	42	55	69	90	95	100	
		00	02	05	11	25	51	75	86	100	30
8		00	00	07	46	82	98	100	100	100	25
		00	05	32	60	88	99	100	100	100	
9		00	02	06	17	46	70	89	96	100	
		00	00	02	09	21	51	74	93	100	25
10		00	06	13	29	63	84	95	98	100	
		04	05	09	18	32	53	86	100	100	31
11		08	10	24	34	38	65	81	84	100	27
		12	23	46	57	65	72	82	90	100	
12		03	06	26	45	74	89	97	100	100	08
		07	14	22	49	75	84	97	100	100	
13		02	02	08	21	47	65	84	95	100	
		02	04	05	12	34	57	79	97	100	13

NOTE: Decimal points have been omitted from this Table.

TABLE XXIV

DIMENSIONS OF THE GDDQ FOR WHICH THE THIRD NULL HYPOTHESIS WAS REJECTED

n	GDDQ	D	$H_{0.3}$ Rejected	Level of Significance	Direction
1	Autonomy	.10	No		
2	Control	.11	No		
3	Flexibility	.32	Yes	.005	-
4	Hedonic Tone	.18	No		
5	Homogeneity	.12	No		
6	Intimacy	.25	Yes	.05	+
7	Participation	.30	Yes	.01	+
8	Permeability	.25	Yes	.05	-
9	Polarization	.25	Yes	.05	+
10	Potency	.31	Yes	.01	+
11	Stability	.27	Yes	.05	-
12	Stratification	.08	No		
13	Viscidity	.13	No		

NOTE: + indicates values associated with High-I principals greater than values with Low-I principals.

- indicates values associated with Low-I principals greater than values with High-I principals.

Discussion

Staffs associated with principals who are rated as high in initiating structure are perceived by staff members as being more intimate than are staffs associated with principals rated as low in initiating structure, (Intimacy). That is, members of the former staffs are more familiar with the most personal details of one another's lives and have a wider and deeper knowledge of each other than is the case with the latter.

Such staffs apply considerably more time and effort to group activities than do staffs associated with principals low in initiating structure, performing a larger number and variety of duties both assigned and voluntarily assumed (Participation).

There is a greater tendency for staffs whose principals are high in initiating structure to be oriented towards goals which are clear and specific to all members than are other kinds of staffs (Polarization), and for the former to have considerably greater primary significance for individual staff members (Potency). This is reflected by the kinds of needs which a group is satisfying or has the potentiality of satisfying, by the extent of re-adjustment

which would be required of members should the group fail, and by the degree to which the group has central meaning to the members with reference to their central values (5, p. 4).

On the other hand, staffs associated with principals who are high in initiating structure are significantly less flexible, permeable, and stable than are staffs associated with principals who are low in initiating structure.

Lower flexibility means that the group's activities tend to be marked by formal procedures, customs, traditions, written rules and regulations, codes of procedure, and, though perhaps unwritten, clearly-perceived ways of behaving. Lower permeability means that the staffs seem to be hard to join, certain criteria of membership having to be met - or at least felt so by the staffs - before newcomers are accepted in full.

Yet such staffs, with low flexibility and low permeability, are also low in stability, failing to persist over a period of time with essentially the same characteristics, and with a high rate of membership turnover.

In general, staffs who are associated with principals whose leader behaviour in delineating the relationship between himself and his staff members,

in establishing well-defined channels of communication and ways of getting the job done, is at a high level, tend to be staffs that are intimate, potent, high in member participation, and oriented toward clear-cut goals.

IV. TEST FOR FOURTH NULL HYPOTHESIS

Null hypothesis

There is no difference between the distribution of S_n-scores of staffs associated with principals having high C-scores and those associated with principals having low C-scores.

Research hypothesis

The distributions of S_n-scores of staffs associated with principals having high C-scores differ from the distributions of S_n-scores of staffs associated with principals having low C-scores.

Statistical Test

The Kolmogorov-Smirnov two-sample, two-tailed test has been chosen because high-C principals and low-C principals and the staffs associated with them constitute two independent groups, and the S_n-scores constitute at most an ordinal scale.

Sampling distribution

The sampling distribution will be found in Table M of Siegel (9, p. 279).

The statisitc used, D, is defined as

$$D = \text{maximum} \left| Z_1 - Z_2 \right|$$

where Z_1 is the distribution for low-C principals (N_1= 59) and Z_2 is that for high-C principals (N_2 = 61).

The critical value of D is 0.249 at the .05 level of significance.

Results

The observed cumulative proportions distributions are shown in Table XXV, page 67. In this table decimal points have been omitted. D is found by comparing the distributions of ratings relating to low-C principals with the distributions relating to high-C principals. The stanine categories in which the maximum difference, D, occurs, have been underlined, and the entry for each difference is placed with the distribution for which the median value on the relevant dimension is the greater. With each dimension, n, of the GDDQ, the cumulative proportions distribution associated with low-C principals precedes that associated with high-C principals.

Decision

The fourth null hypothesis was rejected or accepted as shown in Table XXVI, page 68.

TABLE XXV

CUMULATIVE PROPORTIONS DISTRIBUTIONS OF THE GDDQ ASSOCIATED WITH LOW-C AND HIGH-C PRINCIPALS

Dimension	Stanine Categories 1	2	3	4	5	6	7	8	9	D
1	03	22	56	77	88	90	94	97	100	10
	12	28	66	76	90	94	97	100	100	
2	02	10	17	46	65	83	95	99	100	
	02	07	19	45	66	79	94	98	100	04
3	00	03	14	32	53	65	85	95	100	34
	12	24	45	66	82	90	98	100	100	
4	00	02	22	35	46	73	80	95	100	
	00	03	04	10	26	56	73	87	100	25
5	03	10	20	48	77	87	94	97	100	08
	08	13	35	56	73	85	92	98	100	
6	00	00	09	34	68	88	95	100	100	
	00	02	08	28	56	82	94	97	100	12
7	02	03	24	43	53	68	88	95	100	
	00	02	05	12	29	54	79	87	100	31
8	00	00	10	44	83	99	100	100	100	17
	00	04	19	61	87	98	100	100	100	
9	00	02	07	17	49	77	88	97	100	
	00	00	02	10	19	46	76	94	100	31
10	02	10	17	29	54	83	94	100	100	
	02	02	05	18	28	56	89	98	100	26
11	07	09	20	27	32	58	75	80	100	37
	13	23	48	61	69	79	89	94	100	
12	05	07	19	37	70	85	95	100	100	19
	05	13	28	56	81	89	98	100	100	
13	03	03	12	27	54	71	92	99	100	
	00	02	02	07	28	51	73	94	100	26

NOTE : Decimal points have been omitted from this Table.

TABLE XXVI

DIMENSIONS OF THE GDDQ FOR WHICH THE FOURTH NULL HYPOTHESIS WAS REJECTED

n	GDDQ	D	$H_{0.4}$ Rejected	Level of Significance	Direction
1	Autonomy	.10	No		
2	Control	.04	No		
3	Flexibility	.34	Yes	.005	-
4	Hedonic Tone	.25	Yes	.05	+
5	Homogeneity	.08	No		
6	Intimacy	.12	No		
7	Participation	.31	Yes	.01	+
8	Permeability	.17	No		
9	Polarization	.31	Yes	.01	+
10	Potency	.26	Yes	.05	+
11	Stability	.37	Yes	.001	-
12	Stratification	.19	No		
13	Viscidity	.26	Yes	.05	+

NOTE: + indicates values associated with High-C principals greater than values with Low-C principals.

- indicates values associated with Low-C principals greater than values with High-C principals.

Discussion

Staffs associated with principals whose leader behaviour, as measured by scores on the consideration dimension of the LBDQ, is high, differ significantly from staffs whose principals' C-scores are low, on seven of the thirteen dimensions of the GDDQ.

The staffs of high-C principals are significantly more pleasant and agreeable staffs with which to work than are staffs of low-C principals (high Hedonic Tone). Such staffs are marked by conviviality, pleasant anticipation of group meetings, and by the absence of discontent and complaints.

These staffs function better as units than do staffs associated with principals low in consideration, being characteristically less subject to dissension and personal conflict among members (high Viscidity).

School staffs whose principals are high in consideration are groups in which members apply a considerable amount of time and effort to group activities, performing a greater number and variety of both assigned and voluntarily assumed duties than do staffs whose principals are low in consideration (high Participation).

High-C principals have staffs that have primary significance for staff-members (high Potency) and work towards goals which are clear and specific to group members (high Polarization).

On the other hand, staffs whose principals are high in consideration are significantly less flexible than are staffs whose principals are low in consideration. with formal procedures, customs, traditions and codes of conduct operating more decidedly than any form of informal procedure (low Flexibility).

Such staffs are also perceived as being less stable than are staffs of low-C principals, having a higher degree of staff turnover and re-organization (low Stability).

V. TEST FOR FIFTH NULL HYPOTHESIS

Null hypothesis

There is no difference between the distribution of S_n-scores of staffs associated with principals having both high I-scores and high C-scores and those associated with principals having both low I-scores and low C-scores.

Research hypothesis

The distribution of S_n-scores of staffs associated with principals having both high I-scores and high C-scores differ from the distributions of S_n-scores of staffs associated with principals having both low I-scores and low C-scores.

Statistical test

The Kolmogorov-Smirnov two-sample, two-tailed test has been chosen because two independent groups are under study, and the appropriate S_n-scores constitute at most an ordinal scale.

Sampling distribution

The sampling distribution will be found in Table M of Siegel (9, p. 279).

The statistic used, D, is defined as

$$D = \text{maximum } Z_1 - Z_2$$

where Z_1 is the distribution for low-I/low-C principals ($N_1 = 46$) and Z_2 is that for high-I/high-C principals ($N_2 = 44$).

The critical value of D is 0.287 at the .05 level of significance.

Results

The observed cumulative proportions distributions are shown in Table XXVII, page 73. In this table decimal points have been omitted. D is found by comparing the distributions of ratings relating to low-I/low-C principals with the distributions relating to high-I/high-C principals. The stanine categories in which the maximum difference, D, occurs have been underlined, and the entry for each difference is placed with the distribution for which the median value on the relevant dimension is the greater. With each dimension, n, of the GDDQ, the cumulative proportions distribution associated with low-I/low-C principals precedes that associated with high-I/high-C principals.

Decision

The fifth null hypothesis was rejected or accepted as shown in Table XXVIII, page 74.

TABLE XXVII

CUMULATIVE PROPORTIONS DISTRIBUTIONS OF THE GDDQ ASSOCIATED WITH LOW-I/LOW-C AND HIGH-I/HIGH-I PRINCIPALS

Dimensions	n	Stanine Categories 1	2	3	4	5	6	7	8	9	D
1	04	22	54	76	87	87	91	95	100	10
	12	26	49	77	91	97	100	100	100	
2	02	09	15	48	67	85	95	97	100	
	00	02	14	36	58	74	89	97	100	12
3	00	02	13	28	46	59	85	93	100	39
	12	26	50	67	84	91	100	100	100	
4	00	00	22	37	45	71	78	94	100	
	00	02	02	10	26	60	74	84	100	27
5	04	09	29	47	82	94	97	100	100	13
	10	12	36	60	74	86	94	100	100	
6	00	00	11	37	76	94	100	100	100	
	00	02	10	26	50	82	94	94	100	26
7	02	07	31	52	60	76	96	96	100	
	00	02	07	12	24	50	76	84	100	40
8	00	00	07	42	80	100	100	100	100	20
	00	07	24	62	89	100	100	100	100	
9	00	02	09	17	52	78	89	98	100	
	00	00	02	10	19	48	70	94	100	33
10	00	09	17	31	56	89	96	100	100	
	02	02	05	14	24	46	84	100	100	43
11	09	09	20	26	29	60	78	80	100	42
	17	29	55	68	70	79	86	94	100	
12	02	04	20	39	69	87	96	100	100	14
	02	12	22	53	77	86	97	100	100	
13	02	02	11	29	59	74	91	98	100	
	00	02	02	10	30	58	77	97	100	29

NOTE : Decimal points have been omitted from this Table.

TABLE XXVIII

DIMENSIONS OF THE GDDQ FOR WHICH THE FIFTH NULL HYPOTHESIS WAS REJECTED

n	GDDQ	D	$H_{0.5}$ Rejected	Level of Significance	Direction
1	Autonomy	.10	No		
2	Control	.12	No		
3	Flexibility	.39	Yes	.005	-
4	Hedonic Tone	.27	No		
5	Homogeneity	.18	No		
6	Intimacy	.26	No		
7	Participation	.40	Yes	.005	+
8	Permeability	.20	No		
9	Polarization	.33	Yes	.05	+
10	Potency	.43	Yes	.001	+
11	Stability	.42	Yes	.01	-
12	Stratification	.14	No		
13	Viscidity	.29	Yes	.05	+

NOTE : + indicates values associated with high-leadership principals greater than values with low-leadership principals.

- indicates values associated with low-leadership principals greater than values with high-leadership principals.

Discussion

Principals whose scores on both the initiating structure and the consideration dimension of the LBDQ are high will be termed high-leadership principals; those whose scores on the two dimensions are low, will be termed low- leadership principals. This portion of the study will not concern those principals whose scores on one dimension are high and on the other dimension are low.

Investigation of the fifth null hypothesis reveals that high leadership principals have staffs associated with them that are significantly higher on the dimensions of participation, polarization, potency, and viscidity than are staffs associated with low-leadership principals.

Staffs of high-leadership principals are oriented towards goals that are clear and specific to members (high Polarization). Such staffs are composed of teachers who apply a considerable amount of time and effort to group activities both assigned and voluntarily assumed (high Participation). In performing these activities, staffs with high-leadership principals function as units with a minimum of dissension and personal conflict among members (high Viscidity). The staffs, as groups, have primary significance for their members whenever the principal's leadership

is high, satisfying many needs of the individual staff members and holding significant meaning for the teachers with reference to their central values (high Potency).

On the other hand, staffs associated with low-leadership principals are more flexible and stable than are high-leadership staffs.

Low-leadership staffs tend to turn to informal procedures rather than to adhere to established procedures, minimizing specification through custom, tradition, written rules and regulations, codes of procedure and prescribed ways of behaving (Flexibility).

Such staffs, too, are more stable than are staffs with high-leadership principals, persisting over a period of time with essentially the same characteristics (Stability). As this is a difficult finding to assess, the items of the questionnaire that apply to this dimension are reproduced here :

13. The group is rapidly increasing in size.
14. Members are constantly leaving the group.
15. There is a large turnover of members within the group.
16. Members are constantly dropping out of the group but new members replace them.
17. During the entire time of the group's existence no member has left.
(Hemphill, 5, p. 53).

The rating of a staff on the dimension of stability, then, rests upon the individual staff member's responses to but five questions. Investigation of the eighth hypothesis reveals that there is more variance on this dimension between staffs than there is among the individual ratings of teachers on each staff, suggesting that this dimension is seen by staff members as a characteristic of the group that is rated with a measure of collective agreement.

VI. TEST FOR SIXTH NULL HYPOTHESIS

Null hypothesis.

There is no difference in the average ratings (a) of principals on the LBDQ and (b) of staffs on the GDDQ.

Research hypothesis.

The average ratings of (a) principals on the LBDQ and (b) staffs on the GDDQ are not all equal.

Statistical test.

Since (a) the 24 principals, and (b) the 24 staff-samples are independent, the Kruskal-Wallis one-way analysis of variance for k independent samples is appropriate.

Sampling distribution.

The sampling distribution will be found in Table C of Siegel, (9, p. 249).

The statistic used, H, is defined as

$$H = \frac{12}{N(N+1)} \sum_{j=1}^{k} \frac{R_j^2}{M_j} - 3(N+1)$$

where k = the number of samples = 24
N = number of cases in all samples combined = 120
M_j = number of cases in j-th sample
R_j = sum of ranks in j-th sample

H is distributed approximately as chi-square with (k-1) df, and must be larger than 35.172 to be significant at the .05 level.

TABLE XXIX

DIMENSIONS OF THE LBDQ AND GDDQ FOR WHICH THE SIXTH NULL HYPOTHESIS WAS REJECTED

Dimension		H	$H_{0.6}$ Rejected	Level of Significance
LBDQ				
Initiating Structure		63.68	Yes	.001
Consideration		53.88	Yes	.001
GDDQ				
1	Autonomy	33.79	No	
2	Control	29.54	No	
3	Flexibility	42.39	Yes	.01
4	Hedonic Tone	24.40	No	
5	Homogeneity	33.61	No	
6	Intimacy	21.76	No	
7	Participation	35.71	Yes	.05
8	Permeability	26.01	No	
9	Polarization	46.78	Yes	.01
10	Potency	31.15	No	
11	Stability	50.49	Yes	.001
12	Stratification	31.30	No	
13	Viscidity	27.63	No	

Discussion

The object of setting up and testing the sixth null hypothesis was that of attempting to ascertain whether or not the ratings of the various staffs on the thirteen dimensions of the GDDQ constituted measurement of actual characteristics of the group. Assuming that the staff groups and the principals as leaders in the various schools differ amongst themselves, then the LBDQ and GDDQ scores should demonstrate that difference. If no difference is shown, it would seem to indicate that the measures are invalid.

The sixth null hypothesis was rejected in the cases of the dimensions of flexibility, participation, polarization and stability, and in addition, the values of H, the statistic used, was high, but not significantly, for the dimensions of autonomy and homogeneity.

The two dimensions of the LBDQ also were tested, the null hypothesis being rejected at the .001 level in both cases.

This indicates that the two dimensions of leadership, and those dimensions of the groups that appear to be significantly related to them, are actual characteristics rated by individual staff members with a considerable measure of mutual agreement.

Table XXX, page 82, shows those dimensions on which staffs with high principal leadership differ from staff with low principal leadership, the plus sign showing that staffs with high-leadership posses this characteristic to a higher degree than do staffs with low-leadership. The minus sign indicates the reverse.

The x under $H_{0.6}$ indicates that the sixth null hypothesis was rejected at the .05 level of significance or higher for this dimension, and thus the dimension represents some actual characteristics of the staff that is being rated.

TABLE XXX

DIMENSIONS OF THE GDDQ FOR WHICH ANY OF THE NULL HYPOTHESIS WERE REJECTED

Dimension	$H_{0.3}$ (I-dimension)	$H_{0.4}$ (C-dimension)	$H_{0.5}$ (Total Leadership)	$H_{0.6}$
Flexibility	-	-	-	x
Hedonic Tone		+		
Intimacy	+			
Participation	+	+	+	x
Permeability	-			
Polarization	+	+	+	x
Potency	+	+	+	
Stability	-	-	-	x
Viscidity		+	+	

VII. TEST FOR SEVENTH NULL HYPOTHESIS

Null hypothesis

The correlations between initiating structure and consideration, and between each of these dimensions respectively and the thirteen dimensions of the GDDQ are not significantly different from rho = 0.

Research hypothesis

The correlations are significantly different from rho = 0.

Statistical test

Since ranking statistics are used, the Spearman Rank Correlation Coefficient, rho, is appropriate.

Sampling distribution

The sampling distribution will be found in Siegel (9, pp. 210-213). The statistic, rho, is defined as

$$\text{rho} = 1 - (6 \Sigma d^2)/(N^3 - N)$$

The critical value of rho is 0.404 (two-tailed at the .05 level of significance.

Decision

The obtained coefficients of correlation are shown in Table XXXI, page 84. Those coefficients of correlation for which the null hypothesis was rejected at the .05 level of significance are underlined.

TABLE XXXI

COEFFICIENTS OF CORRELATION
BETWEEN LEADERSHIP AND EACH OF
THE DIMENSIONS OF THE GDDQ

	I	C	1	2	3	4	5	6	7	8	9	10	11	12	13
I		53	08	22	-74	28	13	-11	35	-05	04	36	-44	-05	16
C			14	-02	-49	23	11	34	27	-08	14	58	-52	03	16

NOTE: Decimal points have been omitted from this table.

Discussion

Initiating Structure and Consideration are not independent dimensions of leadership as far as this sample is concerned. A rank correlation coefficient of .53 was obtained, significantly different from zero at the .05 level of significance.

i Initiating Structure and Staff Characterisitics

Initiating Structure is significantly negatively correlated with Flexibility (rho = -.74) and with Stability (rho = -.44). The more a principal attains a clear-cut delineation of the relationships between himself and the members of his teaching staff, the less flexible the staff appears and the less stable it tends to become.

Flexibility is the degree to which a group's activities are marked by informal procedures. Low flexibility groups

are ones in which duties of members tend to be specified through custom, tradition, written rules and regulations, and clearly perceived ways of behaving.

Stability is the degree to which a group persists over a period of time with essentially the same characteristics. Low stability groups are marked by frequent reorganizations and high turnover of personnel.

ii Consideration and Staff Characteristics

Consideration is significantly positively correlated with Potency only (rho = .58) and, as was the case with Initiating Structure, is significantly negatively correlated with Flexibility (rho = -.49) and with Stability (rho = -.52).

There were but six significant correlation coefficients, but it will be noted that the correlations sought were linear and were based on ranking statistics; more refined techniques could possibly reveal more relationships, possibly non-linear.

VII. TEST FOR EIGHTH NULL HYPOTHESIS

Null Hypothesis

The correlations between pairs of dimensions of the GDDQ are not significantly different from rho = 0.

Research hypothesis

The correlations between pairs of dimensions are significantly different from zero.

Statistical test

Since ranking statistics are employed, the Spearman Rank Correlation Coefficient, rho, is appropriate.

Sampling distribution

The sampling distribution will be found in Siegel (9, p. 213).

The statistic, rho, used is defined as

$$\text{rho} = 1 - (6 \Sigma d^2)/(N^3-N)$$

The critical value of rho is 0.404 at the .05 level of significance.

Decision

The rank order of the average ratings of the staffs on the GDDQ are shown in Table XXXII, page 87. The coefficients of correlation between pairs of dimensions are shown in Table XXXIII, page 90. Those coefficients of correlation for which the eighth null hypothesis was rejected at the .05 level of significance are underlined.

TABLE XXXII

RANK ORDER OF MEDIAN SCHOOL SCORES ON GDDQ

School Number	Dimensions of GDDQ												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	24	14.5	20	1	10	15.5	13	4.5	18.5	12	2.5	9	10
2	19	19	3	19	10	21	19.5	11	7	10	10.5	9	8
3	22.5	17	15.5	3	13	11	10.5	23.5	20.5	8	10.5	12.5	1
4	21	20.5	3	3	19.5	11	24	21	5	16.5	10.5	6	15
5	10	22	18	6	6	5.5	10.5	8	3	19.5	14.5	19	25
6	10	14.5	15.5	6	15	11	13	18.5	2	19.5	2.5	20	17.5
7	10	20.5	9	9	1	11	16.5	4.5	16	21	4.5	24	10
8	3	23	6.5	9	2	2.5	22	2	11	13.5	14.5	23	2.5
9	8	3.5	6.5	13.5	17	5.5	19.5	14.5	7	6.5	17	1	17.5
10	19	12.5	23	22	3.5	4	1	21	17	10	14.5	4	23
11	6.5	9.5	10.5	13.5	13	15.5	5	6	7	10	18.5	15	4
12	12.5	9.5	18	19	10	7.5	16.5	3	23	3.5	7.5	21.5	20
13	1	5	18	3	18	15.5	15	23.5	14.5	3.5	24	9	6
14	15.5	17	14	19	3.5	19	22	1	24	13.5	21	9	12.5
15	2	12.5	10.5	9	13	11	5	8	14.5	23	6	9	6
16	19	24	1	13.5	10	1	5	8	1	23	1	21.5	20
17	6.5	9.5	21	23	21	23.5	22	13	22	18	18.5	17.5	15
18	12.5	3.5	3	19	6	15.5	5	21	20.5	23	7.5	15	15
19	4.5	9.5	6.5	24	22.5	19	18	11	18.5	16.5	10.5	4	22
20	4.5	17	24	13.5	22.5	2.5	5	11	11	1	21	15	12.5
21	15.5	6	12.5	19	19.5	19	5	18.5	4	3.5	21	4	20
22	15.5	7	12.5	13.5	10	22	13	16.5	11	15	14.5	2	20
23	15.5	1.5	6.5	13.5	15	7.5	5	16.5	11	6.5	4.5	17.5	10
24	22.5	1.5	22	6	6	23.05	9	14.5	11	3.5	23	12.5	6

Discussion

Significant correlations only will be discussed : those for which the absolute value of rho exceeds .404 at the .05 level of significance on a two-tailed test.

(1) Group Dimensions Correlations

The thirteen dimensions of groups are not all independent for the sample of this study. A total of 10 significant correlations were discovered, and several other correlations, approached significance.

i Control and Intimacy

Control - - the degree to which a group regulates the behaviour of individuals while they are functioning as group members - - is significantly negatively correlated with Intimacy - - the degree to which members of a group are mutually acquainted with one another. Rho for this correlation is -.44.

ii Control and Permeability

Control is significantly negatively correlated with Permeability - - the degree to which a group permits ready access to membership. Rho for this correlation is -.41.

iii Control and Potency

Control is significantly positively correlated with Potency - - the degree to which a group has primary significance for its members. Rho, in this case, is .42.

iv Flexibility and Potency

Flexibility - - the degree to which a group's activities are marked by informal procedures rather than by adherence to established procedures - - is significantly negatively correlated with Potency, rho = -.42.

v Flexibility and Stability

Flexibility is significantly positively correlated with Stability - - the degree to which a group persists over a period of time with essentially the same characteristics. Here, rho equals .43.

vi Hedonic Tone and Viscidity

Hedonic Tone - - the degree to which group membership is accompanied by a general feeling of pleasantness or agreeableness - - is significantly positively correlated with Viscidity - - the degree to which members of a group function as a unit. Rho, for this correlation, is .60.

vii Homogeneity and Permeability

Homogeneity - - the degree to which members of a group are similar with respect to socially relevant characteristics - - is significantly positively correlated with Permeability, to the extent, in this study, of rho = .42.

viii Intimacy and Stratification

Intimacy is significantly negatively correlated with Stratification - - the degree to which a group orders its members into status hierarchies. Rho for this correlation is -.44.

TABLE XXXIII

COEFFICIENTS OF CORRELATION BETWEEN PAIRS OF DIMENSIONS OF THE GDDQ

1	2	3	4	5	6	7	8	9	10	11	12	13
1	09	00	-13	-19	16	-08	20	-01	-09	-23	-14	13
2		-13	-22	-20	-44	27	-41	-18	42	-29	39	-23
3			-09	10	10	-16	05	32	-42	43	01	-03
4				16	16	-05	-09	30	02	17	-13	60
5					20	13	42	-08	-18	-24	-24	32
6						27	09	28	-01	33	-44	03
7							-23	20	17	11	00	-04
8								-15	-16	15	-40	19
9									-05	06	-01	00
10										-46	26	01
11											-34	-08
12												-25
13												

NOTE : Decimal points have been omitted from this Table.

ix Permeability and Stratification

A negative correlation, significant at the .05 level was found between Permeability and Stratification, rho = -.40.

x Potency and Stability

Potency and Stability are negatively correlated to the extent of rho = -.46.

(2) Intercorrelational Clusters

Analysis of Table XXXIII, page 90, reveals the possibility of three major clusters of correlations. These clusters are shown in Table XXXIV, page 92.

The first cluster involves the two dimensions of Hedonic Tone and Viscidity, these two dimensions apparently being relatively independent of the other dimensions of the GDDQ.

The second cluster includes Potency, Low Stability, Low Flexibility, and Control. This array of correlations suggests that the degree to which a group has primary significance for its members and regulates their behaviour is bound up with adherence to established procedures and yet also with a tendency for the group to change its socially relevant characteristics fairly rapidly. It may be that inflexibility, in the sense here defined, is the tie that binds groups together to enhance potency when the groups have a tendency to change.

TABLE XXXIV

SUGGESTED CLUSTERS OF CORRELATIONS

	4	13				
4		.60				(1) Hedonic Tone Viscidity
13	.60					

	10	-11	-3	2	
10		.46	.42	.42	(2) Potency Low Stability Low Flexibility Control
-11	.46		.43	.29	
-3	.42	.43		.13	
2	.42	.29	.13		

	6	-12	-2	8	5	
6		.44	.44	.42	.20	(3) Intimacy Low Stratification Low Control Permeability Homogeneity
-12	.44		.39	.40	.24	
-2	.44	.39		.41	.20	
8	.42	.40	.41		.42	
5	.20	.24	.20	.42		

The third cluster comprises Intimacy, Low Stratification, Low Control, Permeability and Homogeneity. This seems to indicate that groups in which members are intimate, resisting the erection of status-hierarchies, while permitting ready access to membership, tend to be relatively homogeneous and to keep group-regulation of individual members at a minimum.

In summary, the three clusters appear to be, first, that which has to do with friendly group unity, second, that concerning the establishment of persistent procedures to keep the group functioning despite membership turnover, and third, that which involves intimate homogeneity and permeability.

A parellel seems to be indicated here between the first and third cluster and the leadership dimension of consideration, and between the second cluster and the leadership dimension of initiating structure.

CHAPTER VII

SUMMARY AND CONCLUSIONS

I SUMMARY

The general hypothesis advanced in this study is that teaching staff characteristics, as measured on the thirteen dimensions of the Group Dimensions Description Questionnaire, and school principal leader behaviour, as measured on the two dimensions of the Leader Behaviour Description Questionnaire, are interrelated.

To test this general hypothesis, the study was designed around eight problems. The first two problems compared observed sample values based on the GDDQ with the values for two given base populations in order to assess the sample values and to be aware of the limitations to be placed upon interpretations of the observed values.

The next three problems compared staffs associated with high leadership principals with staffs associated with low leadership principals in order to obtain evidence relating to the general hypothesis.

The sixth problem involved an assessment of the two instruments to determine which dimensions were actually measureable characteristics of principals and staffs rated with relative uniformity by members of individual staffs.

The seventh problem concerned a quantitative assessment of the linear correlations between each leadership dimension and each of the group dimensions of the sample.

The last problem sought the quanitative assessment of the linear correlations among the thirteen dimensions of the GDDQ.

The results of the first seven investigations are summarized in Table XXXV, page 96. The general hypothesis that staff characteristics and principal leadership are interrelated is borne out to the following extent :

Flexibility

There is considerable evidence that staffs whose principals are high in Initiating Structure and Consideration are less flexible than are staffs whose principals are low on these dimensions. The former staffs tend to adhere more to established, and less to informal, procedures than do the latter staffs. This dimension of Flexibility is measured with a considerable degree of uniformity among members of individual staffs, and there are significant negative correlations between Flexibility and both leadership dimensions. Calgary staffs do not differ significantly from either base population groups on this dimension.

TABLE XXXV

SUMMARY TABLE OF SIGNIFICANT FINDINGS

Dimension Number	GDDQ Dimension	Problem 1 - Findings B:Base Population S: Study Sample Group with higher values shown.	Problem 2 - Findings T: Teaching Groups of Base Population. S: Study Sample Group with higher values shown.	Problem 3 - Findings Staffs with Principals Low and High in Initiating Structure.	Problem 4 - Findings Staffs with Principals Low and High in Consideration.	Problem 5 - Findings Staffs with Principals Low and High in Leadership.	Problem 6 - Findings Dimensions which appear to be actual characteristics of the sample shown *	Problem 7 - Significant Correlations with I	Problem 7 - Significant Correlations with C	Reliability Coefficients (Halpin)
1	Autonomy	B	T							.88
2	Control		T							.60
3	Flexibility			Low	Low	Low	*	-.74	-.49	.59
4	Hedonic Tone	S	S		High					.49
5	Homogeneity	B								.67
6	Intimacy	S	S	High						.85
7	Participation	S		High	High	High	*			.63
8	Permeability	B	S	Low						.85
9	Polarization	S	S	High	High	High	*			.82
10	Potency	S		High	High	High		+.58		.84
11	Stability		T	Low	Low	Low	*	-.44	-.52	.64
12	Stratification									.78
13	Viscidity	S	S		High	High				.87

NOTE: In the above Table, only the group with the higher population values is entered.

S

Participation

Evidence points to staffs with high leadership principals having a higher degree of Participation than have staffs with low leadership principals. Members of the former category apply a greater amount of time to group activities than members of the latter. This dimension seems to be validly measured, in terms of the sixth problem, but no linear correlation significantly different from zero between Participation and the leadership dimensions was found. The values for the Calgary sample on this dimension were higher than those for the base population, but were not different from those for the teaching groups of the base population.

Polarization

High leadership principals appear to have staffs higher in Polarization than have low leadership principals. Staffs of the former appear more decidedly oriented towards goals that are clear and specific to members than are staffs of the latter. Yet no significant linear correlations between this dimension and the leadership dimensions was detected. Investigation of the sixth problem indicated that the dimension of Polarization is validly measured staff characteristic of the sample. Calgary staffs are significantly higher in Polarization than are groups that comprise both base populations.

Potency

Investigation of the third, fourth, fifth, and seventh problems provide considerable evidence that staffs with high leadership principals are higher in Potency - - the degree to which a group has primary significance for its members - - than are staffs with low leadership principals. This dimension appears to be linearly correlated with Initiating Structure, and Calgary staffs are higher than groups in the base population, but the same as teaching groups of the base population on this dimension.

Stability

Staffs with high leadership principals are less stable than are staffs with low leadership principals, that is, they fail to persist over a period of time with essentially the same characteristics. The negative linear correlations between this dimension and the two dimensions of leadership is significantly different from zero. This dimension is a valid measure for the sample and sample values are not different from base population values, but are significantly smaller than values for the teaching groups of the base population.

Hedonic Tone

There is some indication that staffs whose principals are high in Consideration are higher in Hedonic Tone than are staffs whose principals are low on this leadership dimension.

Calgary staffs appear higher in Hedonic Tone than are groups in the base populations, but this seems to be a function of individual rather than mutual staff perception.

Intimacy

Sample values are higher than base population values in Intimacy, and high Intimacy appears related to high principal Initiating Structure, but on an individually-perceived basis.

Permeability

Calgary staffs appear to be more permeable than U. S. A. teaching staffs, but less permeable than groups in the base population. Again this dimension appears individually perceived, and the dimension is inversely related to Initiating Structure.

Viscidity

There appears to be evidence that Viscidity, the degree to which a group functions as a unit, is related to leadership and especially to Consideration. Sample values exceed base population values on this dimension.

Other Dimensions

The remaining dimensions, Autonomy, Control, Homogeneity, and Stratification, appear to be individually perceived and independent of principal leader behaviour.

II CONCLUSIONS

Relative to the base population, Calgary staffs are lower in Autonomy, Homogeneity, and Permeability, but higher in Hedonic Tone, Intimacy, Participation, Polarization, Potency, and Viscidity.

Relative to the teaching groups of the base population, Calgary staffs are lower in Autonomy, Control, and Stability, but higher in Hedonic Tone, Intimacy, Permeability, Polarization, and Viscidity.

High principal Initiating Structure is related to low Flexibility, Permeability, and Stability, and to high Intimacy, Participation, Polarization, and Potency on the staffs.

High principal Consideration is related to low Flexibility and Stability, and to high Hedonic Tone, Participation, Polarization, Potency, and Viscidity on the staffs.

The dimensions of Flexibility, Participation, Polarization, and Stability are perceived with relative uniformity by members of individual staffs. The other dimensions appear to be assessed in terms of individual perceptions.

The two dimensions of leadership have a high liner correlation. Initiating Structure is linearly correlated with

Flexibility (negatively), Potency (positively) and Stability (negatively). Consideration is linearly correlated with Flexibility (negatively) and Stability (negatively). There are indications that, given a larger sample, more significant correlations would emerge.

Several intercorrelations exist among the dimensions of the groups, principally occurring in three tentatively suggested clusters: first, Hedonic Tone and Viscidity; second, Potency, low Stability, low Flexibility, and Control; and third, Intimacy, low Stratification, low Control, Permeability, and Homogeneity.

The general hypothesis advanced in this study that relationships exist between principal leadership and staff characteristics is thus generally verified.

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INSTRUCTIONS FOR COMPLETING LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

Please DO NOT name the principal or the group or give your own name.

Please DO NOT complete the items on the front cover page of the questionnaire booklet.

Please DO NOT indicate your responses on the questionnaire booklet.

PLEASE INDICATE YOUR RESPONSES ON THE RESPONSE SHEET PROVIDED.

You will find the response sheet inside the questionnaire booklet.

Thank you for your co-operation.

On the following pages is a list of items that may be used to describe the behavior of your supervisor. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. This is not a test of ability. It simply asks you to describe, as accurately as you can, the behavior of your supervisor.

Note: The term, *"group,"* as employed in the following items, refers to a department, division, or other unit of organization which is supervised by the person being described.

The term *"members,"* refers to all the people in the unit of organization which is supervised by the person being described.

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LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

Developed by staff members of
The Ohio State Leadership Studies

Name of Leader Being Described .....

Name of Group Which He Leads .....

Your Name .....

On the following pages is a list of items that may be used to describe the behavior of your supervisor. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. This is not a test of ability. It simply asks you to describe, as accurately as you can, the behavior of your supervisor.

Note: The term, *"group,"* as employed in the following items, refers to a department, division, or other unit of organization which is supervised by the person being described.

The term *"members,"* refers to all the people in the unit of organization which is supervised by the person being described.

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DIRECTIONS:

a. READ each item carefully.

b. THINK about how frequently the leader engages in the behavior described by the item.

c. DECIDE whether he always, often, occasionally, seldom or never acts as described by the item.

d. DRAW A CIRCLE around one of the five letters following the item to show the answer you have selected.

A=Always
B=Often
C=Occasionally
D=Seldom
E=Never

1. He does personal favors for group members.	A	B	C	D	E
2. He makes his attitudes clear to the group.	A	B	C	D	E
3. He does little things to make it pleasant to be a member of the group.	A	B	C	D	E
4. He tries out his new ideas with the group.	A	B	C	D	E
5. He acts as the real leader of the group.	A	B	C	D	E
6. He is easy to understand.	A	B	C	D	E
7. He rules with an iron hand.	A	B	C	D	E
8. He finds time to listen to group members.	A	B	C	D	E
9. He criticizes poor work.	A	B	C	D	E
10. He gives advance notice of changes.	A	B	C	D	E
11. He speaks in a manner not to be questioned.	A	B	C	D	E
12. He keeps to himself.	A	B	C	D	E
13. He looks out for the personal welfare of individual group members.	A	B	C	D	E
14. He assigns group members to particular tasks.	A	B	C	D	E
15. He is the spokesman of the group.	A	B	C	D	E
16. He schedules the work to be done.	A	B	C	D	E
17. He maintains definite standards of performance.	A	B	C	D	E
18. He refuses to explain his actions.	A	B	C	D	E

19. He keeps the group informed.	A	B	C	D	E
20. He acts without consulting the group.	A	B	C	D	E
21. He backs up the members in their actions.	A	B	C	D	E
22. He emphasizes the meeting of deadlines.	A	B	C	D	E
23. He treats all group members as his equals.	A	B	C	D	E
24. He encourages the use of uniform procedures.	A	B	C	D	E
25. He gets what he asks for from his superiors.	A	B	C	D	E
26. He is willing to make changes.	A	B	C	D	E
27. He makes sure that his part in the organization is understood by group members.	A	B	C	D	E
28. He is friendly and approachable.	A	B	C	D	E
29. He asks that group members follow standard rules and regulations.	A	B	C	D	E
30. He fails to take necessary action.	A	B	C	D	E
31. He makes group members feel at ease when talking with them.	A	B	C	D	E
32. He lets group members know what is expected of them.	A	B	C	D	E
33. He speaks as the representative of the group.	A	B	C	D	E
34. He puts suggestions made by the group into operation.	A	B	C	D	E
35. He sees to it that group members are working up to capacity.	A	B	C	D	E
36. He lets other people take away his leadership in the group.	A	B	C	D	E
37. He gets his superiors to act for the welfare of the group members.	A	B	C	D	E
38. He gets group approval in important matters before going ahead.	A	B	C	D	E
39. He sees to it that the work of group members is coordinated.	A	B	C	D	E
40. He keeps the group working together as a team.	A	B	C	D	E

RESPONSE SHEET FOR LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

1.	A	B	C	D	E	21.	A	B	C	D	E
2.	A	B	C	D	E	22.	A	B	C	D	E
3.	A	B	C	D	E	23.	A	B	C	D	E
4.	A	B	C	D	E	24.	A	B	C	D	E
5.	A	B	C	D	E	25.	A	B	C	D	E
6.	A	B	C	D	E	26.	A	B	C	D	E
7.	A	B	C	D	E	27.	A	B	C	D	E
8.	A	B	C	D	E	28.	A	B	C	D	E
9.	A	B	C	D	E	29.	A	B	C	D	E
10.	A	B	C	D	E	30.	A	B	C	D	E
11.	A	B	C	D	E	31.	A	B	C	D	E
12.	A	B	C	D	E	32.	A	B	C	D	E
13.	A	B	C	D	E	33.	A	B	C	D	E
14.	A	B	C	D	E	34.	A	B	C	D	E
15.	A	B	C	D	E	35.	A	B	C	D	E
16.	A	B	C	D	E	36.	A	B	C	D	E
17.	A	B	C	D	E	37.	A	B	C	D	E
18.	A	B	C	D	E	38.	A	B	C	D	E
19.	A	B	C	D	E	39.	A	B	C	D	E
20.	A	B	C	D	E	40.	A	B	C	D	E

INSTRUCTIONS FOR COMPLETING GROUP DIMENSIONS DESCRIPTION QUESTIONNAIRE

Please DO NOT name the group or give your own name.

Please DO NOT indicate your response on the questionnaire booklet itself.

PLEASE INDICATE YOUR RESPONSE ON THE SHEET PROVIDED. You will find this sheet inside the questionnaire.

In considering the questionnaire:

1. Read each item.

2. Decide how well the item tells something about the group you are describing.

3. Find the number on the response sheet which corresponds with the item you are considering.

4. After each number on the response sheet you will find five letters: A B C D E.

5. If the item you are considering tells something about the group

   a. which is definitely true, encircle A,

   b. which is mostly true, encircle B,

   c. which is to an equal degree true and false, or you are undecided about whether it is true or false, encircle C,

   d. which is mostly false, encircle D,

   e. which is definitely false, encircle E.

6. In rare cases when you believe that an item does not apply at all to the group or you feel that you do not have sufficient information to make a judgment concerning what an item tells about the group, leave the response to that item blank.

Please disregard entirely, the back-cover page of instructions on the questionnaire form.

Thank you for your co-operation.

FORM ERG

EXPERIMENTAL FORM
FOR RESEARCH IN TESTING

Group Dimensions Descriptions Questionnaire

by John K. Hemphill
and
Charles M. Westie

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The questions which follow make it possible to describe objectively certain characteristics of social groups. The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore, in no way are the questions to be considered a "test" either of the groups or of the person answering the questions. We simply want an objective description of what the group is like.

1. The group has well understood but unwritten rules concerning member conduct.
2. Members fear to express their real opinions.
3. The only way a member may leave the group is to be expelled.
4. No explanation need be given by a member wishing to be absent from the group.
5. An individual's membership can be dropped should he fail to live up to the standards of the group.
6. Members of the group work under close supervision.
7. Only certain kinds of ideas may be expressed freely within the group.
8. A member may leave the group by resigning at any time he wishes.
9. A request made by a member to leave the group can be refused.
10. A member has to think twice before speaking in the group's meetings.
11. Members are occasionally forced to resign.
12. The members of the group are subject to strict discipline.
13. The group is rapidly increasing in size.
14. Members are constantly leaving the group.
15. There is a large turnover of members within the group.
16. Members are constantly dropping out of the group but new members replace them.
17. During the entire time of the group's existence no member has left.
18. Each member's personal life is known to other members of the group.
19. Members of the group lend each other money.
20. A member has the chance to get to know all other members of the group.
21. Members are not in close enough contact to develop likes or dislikes for one another.
22. Members of the group do small favors for one another.
23. All members know each other very well.
24. Each member of the group knows all other members by their first names.
25. Members are in daily contact either outside or within the group.
26. Members of the group are personal friends.
27. Certain members discuss personal affairs among themselves.
28. Members of the group know the family backgrounds of other members of the group.
29. Members address each other by their first names.
30. The group is made up of individuals who do not know each other well.
31. The opinions of all members are considered as equal.

GO ON TO THE NEXT PAGE.

Directions Summarized
A = Definitely true
B = Mostly true
C = Both true and false
D = Mostly false
E = Definitely false

32. The group's officers hold a higher status in the group than other members.

33. The older members of the group are granted special privileges.

34. The group is controlled by the actions of a few members.

35. Every member of the group enjoys the same group privileges.

36. Experienced members are in charge of the group.

37. Certain problems are discussed only among the group's officers.

38. Certain members have more influence on the group than others.

39. Each member of the group has as much power as any other member.

40. An individual's standing in the group is determined only by how much he gets done.

41. Certain members of the group hold definite office in the group.

42. The original members of the group are given special privileges.

43. Personal dissatisfaction with the group is too small to be brought up.

44. Members continually grumble about the work they do for the group.

45. The group does its work with no great vim, vigor, or pleasure.

46. A feeling of failure prevails in the group.

47. There are frequent intervals of laughter during group meetings.

48. The group works independently of other groups.

49. The group has support from outside.

50. The group is an active representative of a larger group.

51. The group's activities are influenced by a larger group of which it is a part.

52. People outside the group decide on what work the group is to do.

53. The group follows the examples set by other groups.

54. The group is one of many similar groups which form one large organization.

55. The things the group does are approved by a group higher up.

56. The group joins with other groups in carrying out its activities.

57. The group is a small part of a larger group.

58. The group is under outside pressure.

59. Members are disciplined by an outside group.

GO ON TO THE NEXT PAGE.

60. Plans of the group are made by other groups above it.

61. The members allow nothing to interfere with the progress of the group.

62. Members gain a feeling of being honored by being recognized as one of the group.

63. Membership in the group is a way of acquiring general social status.

64. Failure of the group would mean little to individual members.

65. The activities of the group take up less than ten per cent of each member's waking time.

66. Members gain in prestige among outsiders by joining the group.

67. A mistake by one member of the group might result in hardship for all.

68. The activities of the group take up over ninety per cent of each member's waking time.

69. Membership in the group serves as an aid to vocational advancement.

70. Failure of the group would mean nothing to most members.

71. Each member would lose his self-respect if the group should fail.

72. Membership in the group gives members a feeling of superiority.

73. The activities of the group take up over half the time each member is awake.

74. Failure of the group would lead to embarrassment for members.

75. Members are not rewarded for effort put out for the group.

76. There are two or three members of the group who generally take the same side on any group issue.

77. Certain members are hostile to other members.

78. There is constant bickering among members of the group.

79. Members know that each one looks out for the other one as well as for himself.

80. Certain members of the group have no respect for other members.

81. Certain members of the group are considered uncooperative.

82. There is a constant tendency toward conniving against one another among parts of the group.

83. Members of the group work together as a team.

84. Certain members of the group are responsible for petty quarrels and some animosity among other members.

85. There are tensions between sub-groups which tend to interfere with the group's activities.

86. Certain members appear to be incapable of working as part of the group.

87. There is an undercurrent of feeling among members which tends to pull the group apart.

88. Anyone who has sufficient interest in the group to attend its meetings is considered a member.

89. The group engages in membership drives.

GO ON TO THE NEXT PAGE.

Directions Summarized

A = Definitely true
B = Mostly true
C = Both true and false
D = Mostly false
E = Definitely false

90. New members are welcomed to the group on the basis "the more the merrier."

91. A new member may join only after an old member resigns.

92. A college degree is required for membership in the group.

93. A person may enter the group by expressing a desire to join.

94. Anyone desiring to enter the group is welcome.

95. Membership is open to anyone willing to further the purpose of the group.

96. Prospective members are carefully examined before they enter the group.

97. No applicants for membership in the group are turned down.

98. No special training is required for membership in the group.

99. Membership depends upon the amount of education an individual has.

100. People interested in joining the group are asked to submit references which are checked.

101. There is a high degree of participation on the part of members.

102. If a member of the group is not productive he is not encouraged to remain.

103. Work of the group is left to those who are considered most capable for the job.

104. Members are interested in the group but not all of them want to work.

105. The group has a reputation for not getting much done.

106. Each member of the group is on one or more active committees.

107. The work of the group is well divided among members.

108. Every member of the group does not have a job to do.

109. The work of the group is frequently interrupted by having nothing to do.

110. There are long periods during which the group does nothing.

111. The group is directed toward one particular goal.

112. The group divides its efforts among several purposes.

GO ON TO THE NEXT PAGE.

113. The group operates with sets of conflicting plans.

114. The group has only one main purpose.

115. The group knows exactly what it is to get done.

116. The group is working toward many different goals.

117. The group does many things that are not directly related to its main purpose.

118. Each member of the group has a clear idea of the group's goals.

119. The objective of the group is specific.

120. Certain members meet for one thing and others for a different thing.

121. The group has major purposes which to some degree are in conflict.

122. The objectives of the group have never been clearly recognized.

123. The group is very informal.

124. A list of rules and regulations is given to each member.

125. The group has meetings at regularly scheduled times.

126. The group is organized along semi-military lines.

127. The group's meetings are not planned or organized.

128. The group has an organization chart.

129. The group has rules to guide its activities.

130. The group is staffed according to a table of organization.

131. The group keeps a list of names of members.

132. Group meetings are conducted according to "Robert's Rules of Order."

133. There is a recognized right and wrong way of going about group activities.

134. Most matters that come up before the group are voted upon.

135. The group meets any place that happens to be handy.

136. Members of the group are from the same social class.

137. The members of the group vary in amount of ambition.

138. Some members are interested in altogether different things than other members.

GO ON TO THE NEXT PAGE.

Directions Summarized
A = Definitely true
B = Mostly true
C = Both true and false
D = Mostly false
E = Definitely false

139. The group contains members with widely varying backgrounds.

140. The group contains whites and Negroes.

141. Members of the group are all about the same age.

142. A few members of the group have greater ability than others.

143. A number of religious beliefs are represented by members of the group.

144. Members of the group vary greatly in social background.

145. All members of the group are of the same sex.

146. The ages of members range over a period of at least 20 years.

147. Members come into the group with quite different family backgrounds.

148. Members of the group vary widely in amount of experience.

149. Members vary in the number of years they have been in the group.

150. The group includes members of different races.

DIRECTIONS:

Record your answer to each of the items on the answer sheet which is furnished you for that purpose. Make no marks on the question booklet itself. Be sure that you are using the special I.B.M. pencil provided for use with the answer sheet.

In considering each item go through the following steps:

1. Read the item carefully.

2. Think about how well the item tells something about the group you are describing.

3. Find the number on the answer sheet which corresponds with the number of the item you are considering.

4. After each number on the answer sheet you will find five pairs of dotted lines lettered A, B, C, D, or E.

   If the item you are considering tells something about the group which is definitely true blacken the space between the pair of dotted lines headed by A.

   If the item you are considering tells something which is mostly true, blacken the space between the pair of lines headed by B.

   If the item tells something which is to an equal degree both true and false, or you are undecided about whether it is true or false, blacken the space between the pair of lines headed by C.

   If the item you are considering tells something which is mostly false, blacken the space between the pair of lines headed by D.

   If the item you are considering tells something about the group which is definitely false, blacken the space between the pair of dotted lines headed by E.

5. When blackening the space between a pair of lines, fill in all the space with a heavy black line from the special I.B.M. pencil. If you should make an error in marking your answer, erase thoroughly the mark you made and then indicate the correct answer.

6. In rare cases where you believe that an item does not apply at all to the group or you feel that you do not have sufficient information to make any judgment concerning what the item tells about the group, leave that item blank.

7. After you have completed one item, proceed to the next one in order. You may have as long as you need to complete your description. Be sure the number on the answer sheet corresponds with the number of the item being answered in the booklet.

RESPONSE SHEET FOR GROUP DIMENSIONS DESCRIPTION QUESTIONNAIRE

. A B C D E	31. A B C D E	61. A B C D E	91. A B C D E	121. A B C D E
. A B C D E	32. A B C D E	62. A B C D E	92. A B C D E	122. A B C D E
. A B C D E	33. A B C D E	63. A B C D E	93. A B C D E	123. A B C D E
. A B C D E	34. A B C D E	64. A B C D E	94. A B C D E	124. A B C D E
. A B C D E	35. A B C D E	65. A B C D E	95. A B C D E	125. A B C D E
. A B C D E	36. A B C D E	66. A B C D E	96. A B C D E	126. A B C D E
. A B C D E	37. A B C D E	67. A B C D E	97. A B C D E	127. A B C D E
. A B C D E	38. A B C D E	68. A B C D E	98. A B C D E	128. A B C D E
. A B C D E	39. A B C D E	69. A B C D E	99. A B C D E	129. A B C D E
. A B C D E	40. A B C D E	70. A B C D E	100. A B C D E	130. A B C D E
. A B C D E	41. A B C D E	71. A B C D E	101. A B C D E	131. A B C D E
. A B C D E	42. A B C D E	72. A B C D E	102. A B C D E	132. A B C D E
. A B C D E	43. A B C D E	73. A B C D E	103. A B C D E	133. A B C D E
. A B C D E	44. A B C D E	74. A B C D E	104. A B C D E	134. A B C D E
. A B C D E	45. A B C D E	75. A B C D E	105. A B C D E	135. A B C D E
. A B C D E	46. A B C D E	76. A B C D E	106. A B C D E	136. A B C D E
. A B C D E	47. A B C D E	77. A B C D E	107. A B C D E	137. A B C D E
. A B C D E	48. A B C D E	78. A B C D E	108. A B C D E	138. A B C D E
. A B C D E	49. A B C D E	79. A B C D E	109. A B C D E	139. A B C D E
. A B C D E	50. A B C D E	80. A B C D E	110. A B C D E	140. A B C D E
. A B C D E	51. A B C D E	81. A B C D E	111. A B C D E	141. A B C D E
. A B C D E	52. A B C D E	82. A B C D E	112. A B C D E	142. A B C D E
. A B C D E	53. A B C D E	83. A B C D E	113. A B C D E	143. A B C D E
. A B C D E	54. A B C D E	84. A B C D E	114. A B C D E	144. A B C D E
. A B C D E	55. A B C D E	85. A B C D E	115. A B C D E	145. A B C D E
. A B C D E	56. A B C D E	86. A B C D E	116. A B C D E	146. A B C D E
. A B C D E	57. A B C D E	87. A B C D E	117. A B C D E	147. A B C D E
. A B C D E	58. A B C D E	88. A B C D E	118. A B C D E	148. A B C D E
. A B C D E	59. A B C D E	89. A B C D E	119. A B C D E	149. A B C D E
. A B C D E	60. A B C D E	90. A B C D E	120. A B C D E	150. A B C D E

The school staff whose characteristics are being described consists of the following number of teachers excluding the principal and the relieving teacher:

8 or less	9-11	12-14	15-17	18 or more
☐	☐	☐	☐	☐

On the staff are following number of male teachers excluding the principal and the relieving teacher:

0	1	2	3	4
☐	☐	☐	☐	☐

My age at my last birthday was:

29 or under	30-39	40-49	50-59	60 or over
☐	☐	☐	☐	☐

My total number of years of teaching experience anywhere including the present year is:

1	2-4	5-14	15-25	26 or more
☐	☐	☐	☐	☐

The total number of years that I have taught on the same staff as my present principal, including the years when he may have held the positions of teacher, vice-principal, or assistant principal including the present year is:

1	2	3	4	5 or more
☐	☐	☐	☐	☐

My sex is:

male	female
☐	☐

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